

ESTABLISHED 1880  
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The Hardware, Stove,  
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AT A QUARTER TO FIVE in the afternoon, a clever stenographer said that she was hungry. She had worked diligently all day long. Being above the average in intelligence and skill, she had accomplished a great deal of work by applying methods of reason and efficiency to the day's toil. Without giving much thought to the matter, she resented the urge of hunger as an inconvenience tending to slow down the pace of the day's achievements. The feeling of hunger came two or three times a week at the same inopportune hour. Yet it was a natural feeling. If she had stopped to analyze it, her impatience would have vanished and she would have made provision for its recurrence on other days.

Many retail merchants, otherwise shrewd and enterprising, make the same blunder as this stenographer. They reach a point in their business where the demand for increased stock comes at a time when they do not expect it and find them unprepared. Instinctively they resent the urge of such demand. They are accustomed to a certain rate of turnover. When that rate is accelerated now and then, they have no margin of reserve supplies in which to give it play. The wise thing to do is to make provision for such happenings. By keeping a stock sufficient to meet more than normal requirements, the dealer has an incentive to augment his sales by making extra efforts to move the surplus stock into the channels of trade.

BEFORE ASSUMING THE position of Director of Information and Education Service of the Department of Labor, Roger W. Babson was widely known in this and other countries as a business counselor and statistician of the highest standing. Therefore, great consideration is due to his opinion that general advertising campaigns are necessary to put business on its feet. Free use of advertising space is urged by Mr. Babson in order that a demand may be created for articles whose manufacture is now moving slowly.

"Prosperity ultimately depends on the consumer," Mr. Babson says in a recently issued statement. "If there is not a market for goods, they will not be produced. The situation at present is just this: Business is stagnant because nobody wants to buy anything, even though people have been deprived of a great many things they would normally have bought by reason of the restricted production caused by the war.

"Psychologically, we have not yet been able to recover from the shock the war inflicted upon us. We abstained then from making purchases that we would otherwise have made, for at that time it was the patriotic thing to do. Now, however, it is patriotic to start business just as rapidly as we can.

"The time to buy things we need is here and now, but people will not respond to a single appeal. A general campaign of paid advertising is necessary to get business going again. Dealers in all sorts of commodities should advertise them—in the newspaper, in the magazines and in other accepted mediums. Only in this way can the demand be created.

"My advice to the merchants is this: For your own interest and for the good of the country, increase the advertising appropriation you have made for this year. If it is \$20,000, make it \$25,000; make it more if you can.

"Only by advertising can buying power be stimulated, but advertising does stimulate buying power and brings a very direct return to the man who advertises."

THE LEADING UNIVERSITIES of the United States have regular departments devoted to the study of the principles which govern retail merchandising. The same processes of scientific research which have yielded such brilliant results in other lines of knowledge are employed to gather and classify the data which relate to the business of the dealer in hardware or other commodities. Certain facts have been ascertained which have a direct bearing upon the gainful management of a store. Salesmanship has been investigated from every imaginable point of view. Care has been taken to avoid purely academic problems. Actual conditions have been analyzed. The science of retailing, which has been developed as a result of these studies, is accurate and practical. It has less admixture of untried theories than any other collection of verified principles and facts which engages the scholarship of our institutions of learning.

The paramount thing in all this is that retailing is not a matter of haphazard buying and selling. It can not successfully be carried on without systematic study. Just as no man can become a competent surgeon without a thorough knowledge of anatomy and physiology, so no storekeeper can develop into an experienced merchant without applying himself diligently to the science of retailing. It is not necessary for him, however, to gather and collate all the in-

formation which constitutes the substance of that science. This work has already been admirably done by the universities. Reliable textbooks have been published for the guidance and instruction of the retailer who desires to improve his business. As new applications of the already established principles of merchandising are tried out and found to be worthy of adoption, they are set forth and explained in the trade journals—so that with the use of the textbooks and careful reading of trade journals from week to week the ambitious merchant can keep fully abreast of the times.

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THE ANNOUNCEMENT OF an engagement in the newspaper arouses selling activity to a degree not

**Soliciting  
Business.**

realized by any one apart from the persons involved in the betrothal. Jewelers send special catalogs to the engaged couple, showing the latest designs in wedding rings. Florists telephone offers of their wares with promises of prompt service and attractive discounts. Printers solicit orders for the wedding invitations. Real estate men mail literature describing bungalows. Furniture dealers write letters telling how comfortably and charmingly they can furnish the new home at extremely moderate cost. In fact, every enterprising merchant who has anything to sell in connection with setting up of a domestic establishment makes uncommon efforts to bring his goods to the attention of the engaged persons.

As an illustration of business alertness, it would be difficult to find a more instructive example than these various endeavors to capture the trade of prospective customers. Hardware retailers, stove dealers, and warm air heater contractors are generally far behind other merchants in trying to get new business, as an investigation along the foregoing lines amply discloses. Successful merchandising consists in just this sort of work. There is no limit to the possibility of sales for the man who neglects no opportunity to exploit them. Some dealers are discouraged because immediate results do not flow from the preliminary work of solicitation. They forget that the farmer must cultivate his fields patiently and thoroughly if he wants a plentiful crop. Business does not naturally tend toward any particular store. It must be guided thither by publicity and ceaseless effort. The dealer who remains behind his counter waiting for trade to come to him will never be called on to pay an income tax beyond two figures.

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THE TRAVELING SALESMEN of this country by close concert of action, succeeded in tracing down to their sources many harmful stories originated

**Remove the** by Hun propagandists. It transpired in **Obstruction.** the course of their work that a compar-

atively mild rumor grew to big proportions in its passage from one town to another. In much the same way, the belief that there would be radical reductions in the prices of basic commodities has grown beyond reasonable bonds of conjecture into a harmful general impression which operates to block the speed of industrial readjustment. It is because this feeling is so generally current that billions of dol-

lars worth of work have been held up throughout the country, both in private and public enterprises.

To restore confidence and to quicken the return of buying to normal conditions is a necessity which ought to be realized by everyone who has the interests of the people at heart. The retail merchant comes into closer relationship and more frequent contact with the great mass of the buying public than the manufacturer or jobber. Consequently, he has more numerous occasions to exercise influence of a constructive nature upon his customers. If he becomes convinced from a study of the general trend of industry that prices will not go back to the before-the-war basis, he can transmit that conviction to the patrons of the store. In a very short time, the whole country would be forging ahead on the highway of prosperity, if every retailer would do his share in removing the doubt and false impressions which now interpose as obstacles to the advance of business.

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THEORETICALLY, THE SALE of an article of hardware is ended when it passes into the possession of the buyer and payment is made for it. From

**Adjusting  
Complaint.**

the practical point of view, however, the transaction is not completed until full satisfaction is given the customer. In other words, the purchaser has a right to expect a certain amount of service from the article. He exchanges his money for it, not for the purpose of fattening the dealer's balance at the bank, but because he has reason to believe that the article will fill a definite need. If, from defects of material or workmanship, the article fails to do so, there is just cause for complaint. The sensible dealer who appreciates the value of good will to the maintenance of his business receives and adjusts such complaints in a friendly and helpful spirit.

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BUSINESS MEN ARE beginning to find out that ideals are not necessarily fatal to the making of profits. They are learning that it does not pay to have

**Ideals Are** one system of ethics for the home and **Profitable.** an entirely different system for the store.

The same safeguarding of the rights and welfare of others which renders the family happy and contented can be applied with admirable result to the relations between the dealer and his customers. A significant example of this was given by Edwin L. Seabrook, secretary National Association of Sheet Metal Contractors in his address to the annual convention of the Master Sheet Metal Contractors' Association last week in Milwaukee, Wisconsin. He said:

"Very naturally every sheet metal contractor tries to give satisfaction, or at least thinks he is. How many realize that they are not merely selling sheets or tin or registers or warm air heaters, however great the mechanical ability in assembling these may be, but something that is necessary to the happiness, comfort, or health, and these requirements must be satisfied. It is satisfaction that the sheet metal contractor is selling and not the products of his shop. I know a sheet metal contractor who has refused more than once to install a certain kind of warm air heater, although he had that very heater in stock, because he had satisfied



himself that it would not give satisfaction. This man is studying to satisfy. Unless the sale satisfies it would better not be made."

### RANDOM NOTES AND SKETCHES.

By Sidney Arnold.

Yesterday I saw a robin in my garden. His head was jauntily erect. The red of his breast made pleasing contrast with the subdued tints of the soil. He was chirping gaily. A feathered optimist is he. With unerring instinct or—for aught I know to the contrary—a reasoned logic out of generations of transmitted experience, he was preparing for a prosperous Spring and Summer. The occasional blades of new grass were evidently proof sufficient to him of a plentiful verdure in trees and meadows within the immediate future. If hesitant business men were wise enough to understand his teaching, there would be a quickening of industry throughout the land.

\* \* \*

My friend, M. B. Miles, of Clarion, Iowa, who has been one of our subscribers for thirty years, came into my office this week. He says he likes Chicago because the folks here are not always bragging about the town. By way of contrast he told me a story about an Oregon colonel who was the guest of honor at a banquet in Los Angeles.

The usual after-dinner speeches were made, all boosting the city of Los Angeles, but each speaker regretted that Los Angeles had not been founded on the coast. The speakers all said that had the city been on the coast instead of ten miles or so from it, the city would be the garden-spot of the world.

The visiting colonel was called on to speak, and said:

"Gentlemen, I am impressed with your city as much as you are and believe that I can suggest a way in which you can accomplish your wish."

All of the citizens present leaned forward eagerly, for this was no doubt the solution for which they had long been waiting. The colonel continued:

"This is what you should do. Obtain a large pipe, run it from the center of your city into the ocean, and, if you can suck as hard as you can blow, the ocean will soon be in your city."

\* \* \*

Picking the right word for an advertisement requires discrimination, says my friend Herbert W. Symonds, of the Symonds Register Company, St. Louis, Missouri. Words which have the same meaning in one connection may be quite wide of the mark in different circumstances. He makes this clear by relating the case of Mrs. Jones.

She was writing a letter and asked her husband:

"Which shall I say, 'Mrs. Smith called last evening,' or 'Mrs. Smith called last night?'"

Looking up from his paper, her husband answered:

"Either word will do. Evening and night mean the same thing."

"If that is the case, why do we say 'Good evening' when a visitor calls, and 'Good night' when he goes?"

"From force of habit, I presume. Evening and night are synonymous terms."

"Well, they may be synonymous, but when my name appears in the society column I guess you would rather have the report say that I appeared clad in a tasteful evening gown instead of saying I was clad in a tasteful nightgown."

\* \* \*

F. M. Ruddell of the Globe Stove and Range Co., Kokomo, Indiana, told me about a friend whose wife recently imported a maid from Minnesota. She was recommended as a capable Swedish girl who could do all kinds of housework, but spoke very little English. And she was exactly as represented. She had been in her new place two weeks, and had not asked for an evening or Sunday off, and her employer thought that she was entitled to a little recreation.

"Hilda," said the lady, "you may go out this evening."

And Hilda went, and was gone some two hours.

A few evenings later the same formality was gone through, with the same result. This kept up about every other evening for two weeks.

Came Saturday night, and the maid sought her mistress.

"Aye tank aye qvit," said she, dispensing with all formality.

"Why what is the matter?" asked the mistress, who was truly astonished. "You have a good room. The work is not hard. The wages are as high as anybody pays. Why are you dissatisfied?"

"Aye tank it too cold," was the reply.

"This house is not cold. We always keep it warm."

"It too cold out nights."

And further enquiry developed the fact that when the girl went out she thought she was sent, instead of merely being given permission to go. And she had been spending those long, tedious hours walking around the streets in the neighborhood, not daring to go too far from home for fear she would be lost.

\* \* \*

Worry is the only thing which keeps past troubles alive and transmutes present joys into gloomy anticipation of future misery. Douglas Malloch gives us the right view of life to offset such harmful pessimism in these friendly verses:

#### Ain't It Fine Today?

Sure, this world is full of trouble—  
I ain't said it ain't.  
Lord! I've had enough, an' double,  
Reason for complaint,  
Rain an' storm have come to fret me,  
Skies were often gray;  
Thorns an' brambles have beset me  
On the road—but, say,  
Ain't it fine today?

What's the use of always weepin',  
Makin' trouble last?  
What's the use of always keepin'  
Thinkin' of the past?  
Each must have his tribulation,  
Water with his wine,  
Life it ain't no celebration.  
Trouble? I've had mine—  
But today is fine.

It's today that I am livin',  
Not a month ago,  
Havin', losin', takin', givin',  
As time wills it so.  
Yesterday a cloud of sorrow  
Fell across the way;  
It may rain again tomorrow,  
It may rain—but say,  
Ain't it fine today?

## UP TO THE MINUTE NEWS SIFTINGS

### REPORTS A STEADY DEMAND FOR GAS RANGES AND WATER HEATERS.

Sales of gas ranges, water heaters and oil cook stoves by Philadelphia, Pennsylvania, wholesale stove houses were of steady volume last week, according to the Public Ledger of that city. Trade, however, is not brisk, but in spots there is a fair amount of business being done. With spring here the local firms look for an early opening of more active demands and are making preparations to meet the better anticipated call. In the meantime, salesmen on the road report that many inquiries are being placed for stove goods suitable for spring and summer use, but there is a hesitancy upon the part of customers in placing orders. Retailers show a desire to buy cautiously. Fear of a recession in prices is given as the reason.

Wholesalers will be able to furnish a good supply of goods in event of a brisk demand. While some firms have a fair supply of gas ranges, oil cooks and water heaters on hand, they learn from manufacturers that they will not have any difficulty in securing additional supplies. Manufacturers, it is reported, are not actively engaged.

Prices, wholesalers say, will remain firm during the season; but since there has been a reduction in iron prices some buyers have had their beliefs of lower prices strengthened. Refrigerators are in fair demand at wholesale. Many of the sales being made are to the South.

Retail business in gas ranges is good. Some firms report a brisk trade last week, with a tendency toward an increase. This branch of the trade is encouraged by the many shoppers about in the quest of prices. Supplies on hand are fair and prices holding steady, following a slight reduction a few weeks ago.

### RED CROSS ASKS FOR CLOTHING.

Of all the liberated countries none has suffered so bitterly as Serbia. Immediately after the Bulgarian occupation the finest and best of Serbia's manhood, womanhood and even the healthiest of her children, were driven into Bulgaria to a slavery worse than death. Little children, scarcely able to endure the long, forced marches, were worked on the road. Women, underfed and over-strained, were compelled, after long hours of exhausting labor, to endure hardships beyond the comprehension of a civilized people. Men, tortured in spirit and body, were driven to the most degrading labor, and for the most trifling offenses were lined up against the wall and shot like dogs. The days of the tyrannous oppressors are past, but Serbians are coming back again to a country so devastated, so devoid of the most ordinary resources, that mere existence is a struggle.

It is estimated by Dr. Louis I. Dublin, of the Metropolitan Life Insurance Company of New York, who had charge of the health survey in the commission sent over by the American Red Cross to investigate Serbian conditions, that 75 per cent of the people are in a sub-normal condition from starvation, suffering and disease. Dr. Dublin says that the population of Serbia has been diminished during the four years of war by about 1,500,000, an enormous percentage of the original population, which numbered over 5,000,000.

Before leaving the country in the fall of 1918, the Austrians and Bulgarians decided to render Serbia as helpless as possible, and with this in view destroyed not only the railroads, the only medium of supply for this inland country, but also ruined the roadbeds. In addition, all factories were destroyed wherever possible.

Homeless, starving and in rags, Serbians are sleeping in stalls like animals. Filthy beyond description, the children, covered with sores, their eyes showing traces of trachoma, it is hard to say what is their greatest need, whether it is food, clothing or medical attention. Food and medical attention are on the way, is there any one of us who will not send to them some piece of clothing from our ample store?

The last week of March has been set by the American Red Cross for a collection of clothing for the people of the liberated nations, but later gifts will not be refused. One week is too short a time to gather in all we will send and some gifts are bound to be delayed. Money is of no avail there in purchasing clothing, for there is neither cloth nor thread.

Clothing shipped must be clean, mended and warm. Every piece you send will cover some naked, shivering body. The clothing drive is set for the last week in March, but much will be sent in even later. Call up your nearest Red Cross Chapter and tell them you, too, will add to this great effort of the American people to warm the hearts and bodies of these suffering people.

### SECURES REGISTRATION FOR STOVE BLACKING TRADE-MARK.

Under serial number 95,104, United States registration has been granted to The Hayden-Griffith Company, Toledo, Ohio, for the trade-mark shown in the accompanying illustration. The Company claims use since early in the fall of 1909 and the claim was filed May 12, 1916. No claim is made to the exclusive use of the phrase "The Only Black That Stays Black," apart from the mark as shown. The particular description of the goods is stove blackings.





# THE WEEK'S HARDWARE RECORD

*Of Interest to Manufacturer, Jobber and Retailer*

**AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing western hardware and metal prices corrected weekly. You will find these on pages 44 to 49 inclusive.**

Fire completely destroyed the five story building occupied by the Rose-Lyon Hardware Company, 110 Scott Street, at Little Rock, Arkansas. The Company's loss was \$350,000 with insurance of \$93,000. The \$100,000 stock of hardware which this Company had stored in its warehouse and which escaped destruction has been sold to Fones Brothers Hardware Company.

## SON OF THE LATE "POP" BENNETT IS REPORTED TO BE MISSING.

A news dispatch from Long Beach, California, states that William H. Bennett, Jr., a hardware dealer and son of the late "Pop" Bennett who was a national figure in the hardware trade, drove away from home in his automobile February 19 and no trace of him has since been found. It is thought that he is suffering from loss of memory due to an attack of influenza from which he recently recovered. The missing man formerly lived in Austin, Illinois, a suburb of Chicago. The many friends of his deceased father are requested to be on the lookout for him and to notify his family at Long Beach, California, in case they obtain information as to his whereabouts.

## RESCINDS EXPLOSIVES REGULATION.

A circular issued by the Department of the Interior, Bureau of Mines, Washington, D. C., rescinds the regulation requiring dealers and users of farm explosives to be licensed. Its text is as follows:

"Because no longer required for the Public Safety, the Director of the Bureau of Mines, in charge of Explosives Regulation, has made the following changes in the General Information and Rulings under the Act of October 6, 1917, (40 Stat. 385) and as amended by the Sundry Civil Act of July 1, 1918:

"1. All regulations relating to the purchase, possession, and use of explosives for reclaiming of land, stump blasting, ditching and other agricultural purposes are revoked and no further license will be required.

"2. These revocations do not allow enemy aliens or subjects of a country allied with an enemy of the United States to manufacture, purchase, or sell, use or possess explosives at any time.

"3. Provided, that nothing in the above shall release any person whosoever from complying with the law in the matter of safeguarding and storing of explosives."

## ASKS RETAILERS TO HELP INCREASE SALE OF WAR SAVINGS STAMPS.

The Savings Division of the United States Treasury Department has inaugurated a comprehensive campaign to promote the sale of War Savings and Thrift Stamps in all retail stores through the establishment of war savings societies. The cooperation of every national and state retail association is asked by the Government in promoting habits of saving by the practice of wise buying, sane saving, and secure investment through the purchase of War Savings Stamps.

County directors and local committees have been asked to call meetings of all retailers in their respective districts, outline the plans of the campaign, and obtain their support in the movement. Treasury officials predict that the sale of stamps in retail stores will be greatly increased this year through the combined efforts of the Savings Division's machinery, the store proprietors and the store savings societies.

Already many organizations have pledged their support and have followed the pledge by immediately taking steps to organize savings societies in all of their branches. The National Electric Light Association has requested more than 2,000 plants in its membership to establish one of these societies in each of its plants. The National Retail Dry Goods Association, with a membership of 700 department stores scattered in cities from coast to coast, has also pledged its support.

The Window Trimmers' Association, which is affiliated with practically all display and window advertising for retail stores throughout the country, has promised to do everything possible to make the campaign a success through the medium of window displays.

## FRANCE OFFERS PROMISING MARKET FOR ENAMELED HOUSEHOLD WARE.

Enameled household utensils are becoming increasingly popular among the thrifty French housewives, and in spite of the home industries specializing in these lines French manufacturers are unable to supply the demand, according to United States Consul William H. Hunt at St. Etienne, France. Although protected by the high tariff, they can not compete with the prices and quality of such articles imported from Belgium, Austria, Germany and Sweden.

German and Austrian products dominated the French market prior to the war, as they could be manufactured and sold cheaper, owing to privileged conditions, accuracy in chemical science, and superiority in manufacturing methods. German manufacturers of enameled wares formed among themselves an industrial syndicate for fixing a uniform export

price, and had acquired such preponderance in the European markets at the outbreak of the war that they planned to form an association in 1914 to regulate exportation, and even tried, according to the Ironmonger, of London, to escape the blockade under cover of Dutch and Swiss firms.

It may easily be imagined that in the French market, as in all others, the German success was not due to chance, but to organization. The German manufacturers were able to make a utensil for the French trade which had all the appearance, it is true, of similar products sold at higher prices, but certainly possessed neither the quality nor solidity of the latter. They took advantage of all the commercial errors of the French merchants, who have always lived on their reputation for skill rather than on modern organization. To combat such conditions efficiently, it would have been necessary to educate the buyer to appreciate the superiority of the French products. Advertising would have been the only remedy, but as a rule French merchants have not yet fully understood the importance and benefits of advertising.

It will require some time for French industry to arise from its ruins and adjust itself to new conditions. To obtain these goods France must turn to America.

The following statement shows in detail the kinds, dimensions and capacity of the different enameled household utensils most widely used:

Covered saucepans, 24 centimeters (9.45 inches) in diameter; capacity, 4 liters.

Stewpans (casseroles) with straight sides and handled covers, 18, 20, and 22 centimeters (7, 8 and 8½ inches) in diameter; capacities, 4, 6 and 8 liters.

Long-handled saucepans with lips, 12, 14, 16, 18 and 20 centimeters (4¾, 5½, 6¾, 7 and 8 inches) in diameter, and from ⅓ of a liter to 2½ liters' capacity.

Round, shallow dishes with handles, 16 to 20 centimeters in diameter (for containing eggs).

Oval, shallow dishes with handles, 32 centimeters in diameter.

Small kettles 1 to 1½ liters capacity; also, coffee pots holding 6 cups.

Round-bottomed colanders 18 centimeters (7 inches) in diameter. Ladles, large kitchen spoons, skimmers, pitchers, washbasins, pails and waste buckets.

It would be well: (1) To make these wares in three qualities—ordinary, medium and superior—and to present them under distinguishing trade-marks; (2) to take care that handles are solidly attached to the utensils, as in many cases faulty riveting diminishes their value; (3) to have lids also enameled, as these utensils are sought in France for their hygienic and nonrusting properties; (4) to furnish catalogs illustrating the different models and containing detailed information concerning the process of manufacture, explaining the difference in value and indicating the diameter and capacity in the metric system, with prices in francs and centimes.

The foregoing facts apply as well to cast and stamped aluminum wares, although there will be less demand for them, as France stands second in the production of this metal.

These goods are handled on a small scale by hardware merchants; but the largest French buyers are department stores such as Le Bon Marché, Le Louvre Le Printemps, Les Galeries Lafayette, Les Magasins Dufayal, Les Nouvelles Galeries, etc.

### HAS A REVERSIBLE WATER BOARD.

The Anchor Brand Clothes Wringer, shown in the accompanying illustration, and made by the Lovell Manufacturing Company of Erie, Pennsylvania, has a reversible water board. A five year guarantee ac-



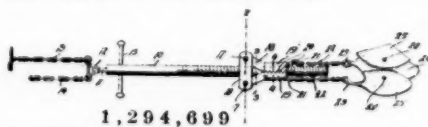
Anchor Brand Clothes Wringer, with Reversible Water Board, Made by Lovell Manufacturing Company, Erie, Pennsylvania.

companies this wringer and the manufacturers state that they are able to offer such a guarantee because actual tests of service have proved over and over that these wringers will last much longer than that period.

The safety Cog Wheel Shield is the important feature of the Anchor Brand Clothes Wringer. The old style wringers were very dangerous, children often catching their fingers between the cog wheels. However, with the new safety shield, this is an impossibility. The bearings on these wringers are enclosed but can be easily oiled and cleaned and are unobstructed. In this way, grease from the bearings cannot ruin the clothes and destroy the rubber on the rolls. The clamp screws and pressure screws are electro galvanized after the threads are cut, and the ball bearings are also electro galvanized. This makes these parts all rust proof. Dealers should address the Lovell Manufacturing Company, Erie, Pennsylvania, for further particulars and helpful literature.

### GETS PATENT FOR WIRE STRETCHER.

Under number 1,294,699, United States patent rights have been granted to Thomas Fletcher Robert Paul, Ituna, Saskatchewan, Canada, for a wire stretcher described in the following:



A wire tightener comprising a threaded shaft means for connecting one end portion of the shaft with a support and permitting rotation of the shaft, a carrier fitting upon the shaft and having plates extending transversely of the shaft upon opposite sides thereof, bolts connecting said plates, an internally threaded shaft engaging collar having separable sections provided with arms pivotally mounted by said bolts, the contracting portions of the separable sections being cut to provide teeth, a clamp including a plate and jaws pivotally connected with the plate, and means connecting the clamp with the sections of the carrier.



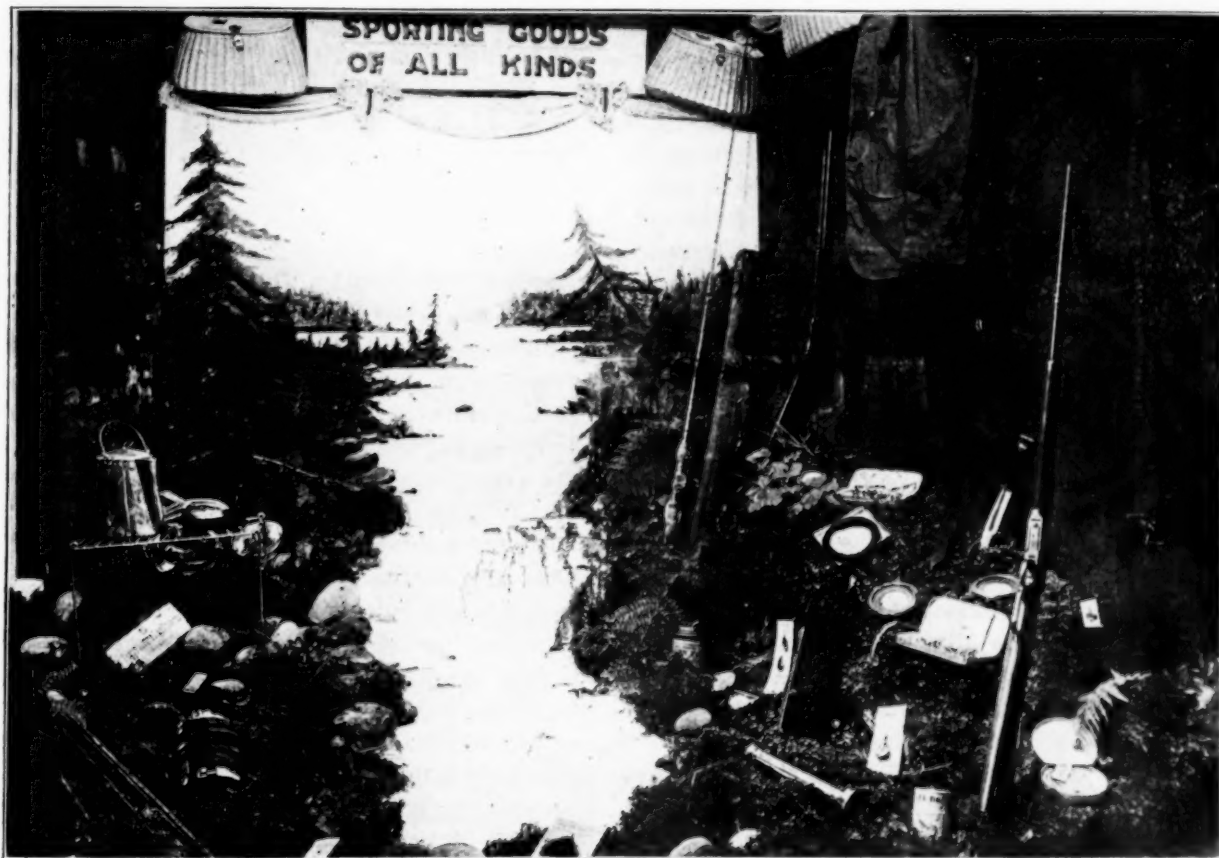
# PRINCIPLES AND EXAMPLES OF GOOD WINDOW DISPLAYS.

## REALISTIC CAMPING SCENE MAKES STRONG WINDOW DISPLAY.

It is generally understood that the more nearly a display of commodities approximates the actual conditions of their use, the stronger is the selling appeal of the exhibit. This is one of the elementary principles of the science of window display. Our minds work by association of ideas. Emotions are aroused by the

the distant horizon carries with it an air of verisimilitude of the utmost artistry. The studied carelessness of the arrangement of the camp utensils and fishing and hunting articles is extremely effective in promoting the purpose of the display.

A hunter, fisher or trapper does not place the articles of his equipment in apple-pie order, to say the least. He wants them where they are handiest. The mistake of the average window trimmer in building up a dis-



Scenic Window Display of Sporting Goods Exhibited in the Store of the F. R. Chown Hardware Company, Portland, Oregon.

stimulus of such association. Desire is created through the imagination, and the imagination itself is nothing less than a very complex and vivid series of motion pictures, in constantly changing reels. The more distinctly we are able to visualize a commodity with reference to its various uses, the more persuasive is its attraction for us.

A volume might be written in elaboration of these bare statements. But no collection of words into pages and chapters, no matter how eloquently and cunningly phrased, would have the power to convey the clear impression of the workings of the principle in question which is produced by the wonderfully realistic window exhibit of sporting goods which was installed in the store of the F. R. Chown Hardware Company, Portland, Oregon. The impression of a camp on both sides of a stream widening out toward

play of this kind is that he disposes the articles in a painfully methodical manner, suggesting the neatness of the stockroom rather than the freedom of the hunting camp. But the designer of the window exhibit under discussion is not an average window trimmer. He shows unmistakable evidences of genius in his particular line. Without the slightest hint of commercial intention, he contrives to introduce into the scene a big variety of sporting goods. Only a thoroughly sophisticated passer-by would perceive motives of salesmanship in the first impression derived from this display. It awakens association of ideas in a most natural manner. The observer who has camped in similar surroundings as well as the onlooker who has longed for the delights of just such a camp are both agreeably stirred by the fascination of this window exhibit and the pleasant things it suggests.



## HARDWARE CLUB OF CHICAGO AND ITS DOINGS

### EXPLAINS NEED OF DEEP WATERWAY AT HARDWARE CLUB LUNCHEON.

In response to a general call by the Board of Governors, fully fifty members of the Hardware Club of Chicago gathered in the rooms of the Club at a noon-day lunch, Thursday, March 27, 1919, to listen to an explanation of the benefits and enlarged facilities of the new Club rooms on the eleventh floor of the State and Lake Building, which are to be occupied May 1, 1919. A. Vere Martin, President of the Club, gave a graphic account of the plans for increasing the service of the organization in the new location. He said that the space embraces nearly eight thousand square feet and includes a private dining-room in addition to the main dining-room and a ladies' parlor which is to be equipped with every modern convenience and comfort. By agreement with those present, he fixed upon Friday, April 18, 1919, as the date for an intensive membership drive. All those who take part in this one day campaign are to meet in the present Club rooms, Cunard Building, Dearborn and Randolph Streets, Chicago, Illinois, at a dinner in the evening to make their respective reports. Valuable prizes are to be given to the three men who bring in the greatest number of new members.

An address was delivered at this luncheon by E. T. Harris, chairman Waterways Committee, Illinois Manufacturers' Association, and formerly vice-president of the Hardware Club of Chicago. He called attention to the bill now pending in the Legislature at Springfield, Illinois, for an effective waterway, and said that it is an important public work at this time for supplying needed employment. In substance his address was as follows:

"I would like to say a few words to you as business men vitally and loyally interested in all things that make for the development and prosperity of our city, state and section, and through them our country and the world. Let it not be forgotten that falling down comes from and through those who do not first make sound and sure their own home and fortune. Charity begins at home and so also does all sane patriotism. Whatever lessens the firmness of one's grip upon his own individual success lessens in greater ratio his value as a helper to the world at large. The old adage, 'First learn to obey that you may be fitted to command,' is but a variation of this theme, for obedience premises law, regulation, efficiency, and all of these are basic elements of success.

"The utilization of the forces and advantages of nature and understanding of nature's laws governing these blessings are manifestly fundamental to the beginnings of fullest success. And this brings us full face to our subject. Practically foretold by the myriads of aborigines who took advantage of the con-

verging streams that lead them from all directions to this spot to choose it as their council ground; by the early pioneers, by Washington, by Lincoln, and others, the growth of industry emphasizes the need of perfecting the natural water courses so that commerce may flow free from impediments.

"The movement of freight upon waterways in this country has been so notably neglected that up to a few years ago, it was almost axiomatic to say that canal and river and lake commerce was a thing of the past. The misleading of designing interests was mainly responsible for this. The last two years made quite plain the failure of railroads to meet the carrying needs of a rapidly increasing population. This failure, which became not only a national but a world-wide disaster during the past two years, was foreseen and known to others for several years. Today there is no longer any sentiment against waterways to be overcome. The problem is how soon and most effectively to meet the transportation crisis and most wisely and widely prepare for the increasing freight problems of the future. Our population is increasing rapidly. Our individual needs are greater and will become with increasing earning capacity still more so. Every time fifty cents is added to a man's wages, his buying capacity and his freight needs increase. Values depend upon fluidity of movement.

"To the enormous coast line of our Great Lakes, there are added the thirteen to fifteen thousand miles of river connections in the Mississippi Valley and all of these are waiting for the open Sesame, which will be pronounced when the magic word 'begin' is sounded for the cutting of a connecting channel about sixty-five miles long between Joliet and Utica, Illinois. A good many years ago the voters of Illinois legalized the issuance of twenty million dollars of bonds for the creation of a deep waterway. Now the term 'deep waterway' is a relative one. What would be a deep waterway for ocean channels would not be needed for an inland river. A deep channel for a canalized brook would not be so called for a canalized river. The Mississippi River runs eight to nine feet usable channel, and this depth is the governing deep waterway depth for the feeding streams to such a river depth. This in reality would be a deep waterway for Illinois. There have been many men who joined efforts to promote this enterprise. During Governor Dunne's administration, notable advances were registered. The plans then formulated fitted what seemed to be to the local interests requisite but they were not reduced to their final terms and as submitted to the Washington authorities did not gain full approval.

"Having in mind all the probable needs and developments, the present executive of Illinois, Governor Lowden, has sought the counsel of disinterested and public-spirited men with a view to getting the best



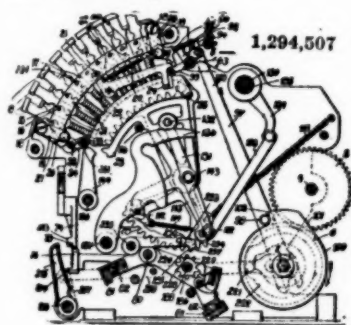
possible waterway bill passed in the State Legislature. Every member of the Hardware Club of Chicago can do a much needed work in bringing to speedy realization the waterway which will open the entire Mississippi Valley to economical transportation and, therefore, intensify the productivity of this, one of the richest areas upon the globe. As at present planned, the deep waterway canal will permit the movement of freight at the rate of one-tenth of one mill per ton mile. Members of the Hardware Club are, therefore, urged to make this a personal matter by writing to their State representatives and senators urging the speedy passage of the waterway bill."

#### PLACE A PRICE ON ALL ARTICLES.

The hardware dealer who wants to succeed should put prices on his goods. Make this matter of pricing hardware simple and clear to your clerks. That will bring about quick action by them and give prompt service to your patrons. For the protection of your profits, follow the markets closely. Mark your goods fairly and at figures based upon prevailing costs. Place a price on all articles in your store, screws by the dozen and bolts even singly, thereby avoiding variations in the quotations by your clerks. Uniform selling prices inspire confidence in customers and gain for your store the desirable reputation of being a one-price establishment.

#### PATENTS A REGISTERING MACHINE.

Haakon A. Martin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, has obtained United States patent rights, under number 1,294,507, for a registering machine described in the following:



In a machine of the class described, the combination with a totalizer comprising adding and subtracting elements, of digit carriers, means for operating the digit carriers to set up thereon the amount

on the adding elements when the additions have exceeded the subtractions or the complement of such amount when the subtractions have exceeded the additions, and means effective under the latter condition for operating the digit carriers to subtract from the complemental amount shown thereon whereby to show the amount by which the additions have been exceeded.

#### OBITUARY.

##### Ferdinand A. W. Kieckhefer.

At the age of 67 years, Ferdinand A. W. Kieckhefer, president of the National Enameling and Stamping Company of Baltimore, Maryland, died at his residence in New York City of a paralytic stroke Wednesday, March 26, 1919. He was born in Milwaukee, Wisconsin, February 10, 1852, and began his

business career as assistant bookkeeper in the wholesale hardware store of John Pritzlaff of that city. In 1872 he opened a small hardware store on West Water Street, Milwaukee. In partnership with his brother William he entered the tinware manufacturing business in 1880. Nine years later the firm was merged with the National Enameling and Stamping Company, with Ferdinand Kieckhefer as president and in charge of the Milwaukee plant. The company prospered until at the time of his death it had large plants in six different cities. Mr. Kieckhefer is survived by his wife and four children, Alfred, Ferdinand, Jr., Mrs. Louise Meier, and Mrs. C. R. Cook, and by his mother and a brother, August Kieckhefer.

Walter Vanstone.

The recent demise of Walter Vanstone at his home in Kansas City, Missouri, removes one of the most popular and lovable men from the warm air heater trade in that section of the country. He was for more than twenty years the representative of the Richardson-Boydton Furnace Company and his efficiency as a heating engineer distinguished him as one of the leaders of his profession. His attractive personality drew to him the friendship of men in all walks of life. Practically all the warm air heater dealers and sheet metal contractors and jobbers of Kansas City attended his funeral. They all feel his loss as a personal bereavement.

#### OPPORTUNITIES FOR FOREIGN TRADE PRESENTED BY BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

28770.—An agency is desired by a man in France for the sale of household articles for the kitchen, table, etc. Correspondence may be in English.

28772.—A man in France desires to secure an agency for the sale of hardware, building materials, household articles, etc. Correspondence should be in French.

28773.—A firm in Italy desires to secure an agency for the sale of hardware, metal articles, tin plate, etc. Terms, payment against documents. Correspondence may be in English. References.

28782.—A firm in Italy desires to secure an agency for the sale of electrical heating and cooking devices, such as stoves, flat irons, and boilers. Correspondence may be in English. Reference.

28787.—A man in France desires to secure an agency for the sale of electrical apparatus, kitchen utensils, household articles, garden tools, hardware, motorcycles, and electrical cars for factories. Correspondence should be in French.

28788.—A firm in Brazil with a branch office in New York City wishes to secure exclusive agencies for the sale of hardware, construction material, agricultural implements, etc.

28794.—A British Indian company with buying headquarters in New York City wishes to purchase direct from manufacturers paints, roofing, and automobile accessories. Payment will be made against documents in New York. Reference.

28202.—A commercial agent from Australia, who is now in this country, desires to represent manufacturers direct throughout Australia and New Zealand. References are offered.

28805.—A man in Belgium, who is a graduate of an

American university, will come to this country to make connections with firms in view of securing the representation in Europe of American manufacturers as a commercial traveling engineer.

28807.—A firm in Syria desires to represent American firms for the sale of all kinds of products which are in demand in that country. He requests full information as to prices, conditions of sale, terms of payment, and samples of goods. Correspondence should be in French.

28808.—An engineer now in France would like to correspond with manufacturers of hardware for shipment to Poland under an exclusive sales agency agreement.

28810.—A man in the Canary Islands desires to secure an agency for the sale of American manufactured goods and products in those islands and other Spanish Provinces.

28684.—A merchant in Switzerland desires to secure an agency or to purchase tools and bicycles. Correspondence should be in French. References.

28685.—A firm in India desires to purchase and to secure an agency for the sale of hardware, metal, paints and varnishes, etc. Trade terms, samples, and catalogues, are requested. Reference.

28687.—A man in Brazil wishes to secure an agency for the sale of American goods. He also wishes to open an exposition of American manufactured products such as he formerly maintained for German manufacturers. References.

28759.—A firm in Italy desires to secure an agency for the sale of varnishes, paints, household articles, hardware, etc. Correspondence should be in Italian. References.

28763.—An American firm which is establishing an office in Spain desires to secure an agency for the sale of agricultural implements, tools, general hardware, builders' hardware, and paints. References.

28822.—A firm of commission merchants in Mexico desires to be placed in communication with manufacturers in view of obtaining agencies for the sale of exclusively American goods. Latest catalogues are requested. Reference.

28824.—An agency is desired by a man in France for the sale of small tools. Correspondence should be in French. Reference.

### COMING CONVENTIONS.

Southern Hardware Jobbers' Association, St. Charles Hotel, New Orleans, Louisiana, April 8, 9, 10, 11, 1919. John Donnan, Secretary, Richmond, Virginia.

American Hardware Manufacturers' Association, St. Charles Hotel, New Orleans, Louisiana, April 8, 9, 10, 11, 1919. F. D. Mitchell, Secretary, 4126 Woolworth Building, New York City.

Sheet Metal Contractors' Association of Illinois, Jefferson Hotel, Peoria, Illinois, April 9, 10, 1919. Frank I. Eynatten, Secretary, Peoria, Illinois.

Arkansas Retail Hardware Association, Marion Hotel, Little Rock, May 6, 1 and 8, 1919. Grover T. Owens, Secretary, Little Rock, Arkansas.

The Hardware Association of the Carolinas, Charlotte, North Carolina, May 20, 21 and 22, 1919. T. W. Dixon, Secretary, Charlotte, North Carolina.

Alabama, Florida and Georgia Retail Hardware Associations, Jacksonville, Florida, May 21, 22 and 23, 1919. Walter Harlan, Secretary, Atlanta, Georgia.

National Sheet Metal Contractors' Association, Columbus, Ohio, June 10, 11, 12 and 13, 1919. Edwin L. Seabrook, Secretary, 261 S. Fourth street, Philadelphia.

National Warm Air Heating and Ventilating Association, Columbus, Ohio, June 11, 1919. Allan Williams, Secretary, Columbus, Ohio.

Sheet Metal Contractors' Association of Ohio, New Southern Hotel, Columbus, Ohio, June 11, 12, and 13, 1919. W. J. Kaiser, Secretary, Columbus, Ohio.

Mississippi Retail Hardware and Implement Association, Agricultural College, July 8, 9 and 10, 1919. D. Scoates, Secretary, Agricultural College, Mississippi.

### RETAIL HARDWARE DOINGS.

#### Arkansas.

Fred Watson has sold the Madison country hardware store at Huntsville to Chester Boatright and the Benton County Hardware Company.

#### Illinois.

The Favorite Hardware and Furniture Company, Altamont, has been incorporated for \$15,000 by William H. Bauer, Edwin S. Schroeder and A. H. Hicks.

Max Cohen of Hume plans to put in a stock of hardware.

#### Indiana.

Samuel and John Kelly will engage in the hardware and implement business at Greensburg.

#### Iowa.

H. E. Canfield and Harry Woodson will open a hardware business at Stanley.

Fred H. Oloff has succeeded F. J. Drilling in the hardware business at Craig.

Peter Ekman will open a hardware store at Marne.

Leo Healy has purchased a hardware business at Macksburg.

The Johnson Wyth Hardware Company, Cedar Falls, has changed its name to the Christenson-Messierly Company.

Thomas Conley has engaged in the hardware business at Oto.

#### Kansas.

The Equity Hardware Company has opened for business at Cheney.

The Stanley Lumber Company of Stanley has bought the Grange Store and will remodel and occupy it with a stock of hardware.

L. A. Davis has moved the Matthiesen stock of hardware at La Crosse to his store and combined the stocks.

Ball and Hamilton have purchased the hardware store of the Gardner Hardware Company at Altoona.

#### Minnesota.

J. C. Nannestad has sold his interest in the P. H. Hanson and Company hardware business at Lake Park to Carl T. Strand and N. F. Frick.

Matt Lofback has opened a hardware business at 206 North 2nd Avenue, Virginia.

E. A. Siddall's hardware store at Wells is now succeeded by Siddall and Brandt Company.

#### Missouri.

R. M. Magee has sold his hardware store at Warrensburg to I. D. Garner and Son.

John Girard and Val Pfitzner have sold their hardware business at Aurora to Raymond Liles.

Hill Brothers have purchased the hardware and furniture stock of A. D. Baker at Slater.

H. E. Brown has sold an interest in the Trenton Hardware Company at Trenton to W. M. Robertson.

#### Montana.

The Wolcott Biller Company, Clyde Park, has dissolved partnership, Charles F. Biller taking over the hardware department.

#### Nebraska.

C. R. Jones has purchased a half interest in the hardware store of C. F. White at Fairbury.

C. B. Wood has sold his hardware store at Sutherland to Charles White.

Robert Racle and Son, Spencer, have bought the Coffee hardware store.

C. R. Hinman has sold his hardware store at Newman Grove to Johnson and Gustavson.

C. B. Dalton has bought a hardware store at Inavale.

J. W. Carper has opened a store at Havelock.

#### North Dakota.

The Fingal Hardware and Motor Company, Fingal, will erect a new building for their business.

S. C. Thompson has sold his hardware store at Hettinger to Charles F. Behl.

Oscar Brakke has succeeded Brakke Brothers and A. Frederikson in the hardware business at Leonard.

Arthur McDougall has bought the Hanson hardware store at Mooreton.

J. M. C. McMaster will open a hardware store at Sarles.

#### Oklahoma.

Sawyer and O'Connor will open a hardware business at Enid.

J. E. Webb has purchased the Merchants Hardware Company's store at Muskogee.

Brooks Hardware and Sporting Goods Company, Oklahoma City, has been incorporated for \$10,000 by L. O. Brooks, R. N. Jones, J. R. Alley.

W. M. White has purchased a hardware store at Clarita.

F. R. Brooks of Abbott-Brooks-French Hardware Company, Durant, was in Bokchito recently arranging to open a branch store there.

The Creagan Hardware Company, Henryetta, has moved to 401 West Main Street.

The Farmers Supply Company of Nowata states that it has purchased the Isham Hardware Company's stock at Coffeyville, Kansas.

John I. Loveless and George W. Paddock have bought the business of the Guthrie Hardware Company, Guthrie.

The business of the Merchants Hardware Company at Muskogee has been purchased by J. E. Webb.

Fire destroyed the Boyer hardware store and the Stone-breaker hardware store at Avant.

#### South Dakota.

Abourezk and Greenwood, Wood, have dissolved partnership in the hardware business, M. Abourezk continuing the business.

#### Texas.

The Allen Hardware Company, Comanche, has opened a new store with Otto Williamson as manager.

#### Wisconsin.

Hansen and Nelsen have sold their hardware store at Luck to T. A. Jasperson.



# ADVERTISING CRITICISM AND COMMENT

*Helpful Hints for the Advertisement Writer*

There is a pleasing sprightliness in the advertisement of the Alabama Hardware Company which was published in the *Anniston Star* and *The Daily Hot*

*Blast* of Anniston, Alabama. It is familiar without being flippant. The greeting is brisk and cordial and has the effect of putting the Alabama Hardware Company in the good graces of many a prospective customer. This advertisement talks to the folk in a neighborly fashion which begets confidence. It has none of the frigid impersonality of mere statement. Hence, its cordial tone makes friends with the casual reader. A cheerful sincerity is manifest in the sentence, "Glad to have you come in and figure with us." Moreover, the play on words in "Thank You. Good-Buy always from the Alabama Hardware Company," gives an agreeable impression. It does not sound far-fetched. While the pun

which is easy to read insofar as its mechanical make-up is concerned, has a big initial advantage. When to this advantage is added the power of attractive wording, it is sure to be resultful.

\* \* \*

Although it does not attain perfection, there are several things to be said in favor of the advertisement of the Laurens Hardware Company which appeared in the *Courier-Herald* of Dublin, Georgia. The composition is good. Style of type, border, and generous allowance of white space for contrast and emphasis

NUMBER?

9 dbl 0

HELLO!

ALABAMA HDW. CO. ?

Yes Sir we sell

LIME  
CEMENT  
PLASTER  
ROOFING

SHINGLES  
METAL LATH  
PAINTS  
OILS

AND

FINISHED HARDWARE

Glad to have you come in  
and figure with us.

Thank you.

GOOD-BUY

Always From the

ALABAMA  
HARDWARE CO.  
ESTD 1888 A DAILY DAY

Cor. 10th and Noble.

may provoke a smile, it is likely to be favorably remembered in connection with the firm's name and business. Any device in an advertisement which puts the probable buyer in good humor and draws his attention in a free and easy way to the goods offered for sale, is worthy of consideration.

The advertisement of the Alabama Hardware Company is herewith reproduced in its exact size. A glance at its arrangement is sufficient to attract further notice. Plenty of space is left unoccupied, so that there is no crowding together of the lines of type. This, of course, facilitates reading. An advertisement

## ROOFING

We have a large stock of

Galvanized Corrugated Roofing

and

Rubber Roofing

1, 2 and 3 ply

Quality is high and prices are right. See us before  
you buy.

You're always welcome at the

Laurens Hardware Co.

"The Farmers' Friend"

Phone 17.

Jackson St.

are deserving of commendation. Also, praise is due the use of the friendly phrase, "You're always welcome at the Laurens Hardware Company." In lieu of definite quotations, there is some degree of satisfaction in the assurance that "quality is high and prices are right." Improvement could be made, however, by the addition of a few words telling the advantage of galvanized corrugated roofing and rubber roofing.

\* \* \*

### PUBLICITY HELPS READJUSTMENT.

We're all ambitious to benefit by what is ahead—it required the most stupendous campaign in advertising history to prepare ourselves for war—the same heroic treatment is needed successfully to develop what we have accomplished. The more quickly this truth is recognized the more surely will advertising again accomplish historical feats.

# AUTOMOBILE ACCESSORIES SOLD BY HARDWARE DEALERS

The Holley Carbureter Company, Detroit, Michigan, is letting contractors for a two story plant and a one story boiler house.

The A. O. Smith Company, Twenty-seventh Street and Keefe Avenue, Milwaukee, Wisconsin, manufacturers of automobile parts, etc., are planning the erection of a plant addition.

## AUTOMOBILE ACCESSORY BRANCH OF NATIONAL HARDWARE ASSOCIATION HOLDS ITS FIRST CONVENTION

The immense proportions to which the business of automobile supplies has grown is well illustrated by the first annual convention of the Automobile Accessory Branch of the National Hardware Association which was held March 20 and 21, 1919, in the Hotel Statler, Detroit, Michigan. The rapid development of the trade from small beginnings was graphically portrayed in the opening address of the chairman of the convention, A. H. Nichols, of Buhl Sons Company, Detroit, Michigan.

**Thursday, March 20, 1919.**

The convention was formally inaugurated by the singing of "America" by the entire assembly. At the close of the anthem, A. H. Nichols, president Automobile Accessory Branch of the National Hardware Association, said:

**Address of A. H. Nichols, Chairman Automobile Accessory Branch National Hardware Association, at First Convention of This Branch in Detroit, Michigan, March 20, 1919.**

"Gentlemen, it gives me great pleasure to welcome you to this, the first distinct and separate meeting ever held by our Automobile Accessory Branch, and I hope that this meeting will only be a marker for many more such conventions. If you will take a look at our Exhibit Room, you will see the great interest that our associated members have taken in this meeting, and the large attendance that we see here at this meeting, our first or opening meeting, shows the great interest that is being taken by everyone throughout the country in this new enterprise, for, at this meeting, nearly every state in the Union, and every important city in the United States, is represented. This, I think, speaks a very great deal for practically a new enterprise. I believe it was in 1893 that the Barnum-Bailey circus advertised as one of their greatest curiosities the horseless carriage, and I am told that they relied upon the drawing features of that curiosity for their financial success for that year. Now, when you take into consideration the fact that a few years ago the first automobile was not used, and automobile accessories were unknown, it certainly is something wonderful, the great growth and magnitude of this enterprise today, for it is one of the largest, if not the largest, in the world.

### Immense Sums Invested in Accessories.

"I do not think there are very many of us that have any conception of the billions of dollars that are today invested in the manufacture of motor-driven vehicles, and in the accessories. Perhaps I could illustrate that by calling your attention to a gentleman in our city, a man here that just a few years ago was living perfectly contented, his only income being that of an ordinary machinist, who enjoyed carrying his tin dinner pail the same as many others have. Today he is known all over the world; he has his friends everywhere, and he is the possessor of an income annually of many millions of dollars. He is without doubt the greatest money maker that has ever been known, the most successful one, at least; but it required the automobile industry to develop his talents. And then, I can also point you to large fortunes that have been accumulated in other business lines, but which have almost instantly disappeared when invested in this new industry. So that, when we look back and see the mistakes of others, I have felt like condemning the hardware dealers for the mistakes that they make, for the fact is undisputed that the hardware dealer allowed the thought to prevail that automobile accessories were entirely foreign to the hardware business. He did not realize that he had sold automobile accessories long, long before an automobile was made. But he considered automobile accessories as consisting of many new inventions; some of them were successful; the majority of them were failures, and as a result of this erroneous belief on the part of the dealer, the automobile owner formed the habit, when he wanted anything for his machine—his automobile—of going to the garage, or the new dealer, the accessory dealer; but when he wanted a wrench or a hammer or a pair of pliers, or some tool for his farm or his factory, why, he went to the hardware store, just the same as he always did.

### Hardware Dealer Is Logical Retailer of Accessories.

"Now, the National Hardware Association realized the mistake that the hardware dealer was making, and in order to educate him to that fact, that he was the natural source of supply of all automobile accessories, they formed this branch; and in 1916 they held their first meeting at Atlantic City. The National Hardware Association have been holding meetings for some twenty-six or twenty-seven years, but the first automobile accessory meeting was held in 1916. They also realized the great help that the manufacturer could be in this educational work, and so they invited the manufacturer, who wished to cooperate with the hardware dealer, to assist in advancing this work and become an associate member; and as a result, the hardware jobbers of the United States and the automobile accessory manufacturers



are meeting here today in convention. We are not here to coerce or to condemn, to make rules, or establish laws. We are here absolutely for educational purposes. We want a free and open expression from every member here. We want to profit by your experience, or by your mistakes, so that you may profit by our mistakes. This Association would not, if it could—and it could not, if it would—tell you gentlemen how to conduct your business. You all have the same right to do as you please after you leave this convention. The manufacturer may sell to whom he may wish; he may charge whatever price he may desire, and the jobber reserves the same right to spend his money wherever he thinks it is for his interest to spend it. Individually, we may have some thoughts different from others, but I believe, if there is anyone here that does not believe in cooperation, he would not be a member of this Association. I think you all will agree with me that the garage is a necessity, and should be encouraged, but the garage man is not naturally a merchandiser.

#### **Hardware Man Is Best Equipped to Sell Accessories.**

"The hardware dealer, from his long experience in the hardware business, is familiar with the different makes, and is a better judge of their grades, and certainly must be a better merchant to buy the accessory than the less experienced merchant, who is so apt to be deceived by the goods that may have a fine finish, but are manufactured only for a price. There is the additional investment that is necessary, which would naturally increase the hardware dealer's overhead, but not to any material extent. You manufacturers should remember this one point, that the hardware jobbers represent your goods in every town, in every hamlet, in this country, and certainly ought to be able to represent your goods in these crossroads, at a price that would be suicidal for you, or a specialty man to attempt to reach. So I can see no reason why we should not look to the hardware dealer, the natural source of supply, for all of the automobile accessory sales.

#### **Opportunity for Hardware Man to Become World's Greatest Merchandiser.**

"This great enterprise is practically in its infancy. The automobile is used today more than the horse and carriage ever was. The motor truck is a great competitor of the railroad in the transportation of freight, and the good roads will make it a still stronger competitor. It will not be long before every farmer will have a tractor, and some of them many more. Flying through space on air is no longer a dream, and soon every city of importance will have landing fields. A New York street will reach from New York to San Francisco. A New Orleans street will reach from New Orleans to Montreal. These streets will be lighted, and traveled by night, and they will have anchor balloons to guide them by day. I only mention these things to show you the great work that we have before us, and the necessity of building now on a concrete foundation. The dealers should realize that they have a great opportunity, through the automobile accessory business, to become the world's greatest merchandisers. The manufacturer should realize the importance of looking into the financial standing of the

people with whom he wishes to do business. He should not build just for today, because the financial standing of the people that you deal with will be a very important factor in the near future. The conditions of the past year or so possibly have not had a tendency to increase the sale of automobile accessories. This great cry for economy—the desire that every citizen has had to make the old do—would naturally have a tendency to curtail the output, and yet, if you take the matter up with your hardware dealers, I know they will tell you the year just closed has been the most successful year that the automobile accessory department has ever had. For this, gentlemen, I credit the National Hardware Association, and the assistant work that has been done through this branch; and I am not unmindful of the wonderful help that the associate members have given us in this work."

For the hardware dealer who has not given much thought to the sale of automobile accessories, some very startling and enlightening facts are set forth in the address of W. D. Biggers, Chairman of the Executive Committee American Hardware Manufacturers' Association, who spoke as follows:

**Address of W. D. Biggers, Chairman Executive Committee American Hardware Manufacturers' Association, at the First Annual Convention of the Automobile Accessory Branch of the National Hardware Association in Detroit, Michigan, March 20, 1919.**

"I represent the American Hardware Association, an association that is very closely connected with the Hardware Jobbers' Associations of this country. I have no doubt that there are many men in this audience who do not know the hardware jobbers as well as I do, and that is not particularly in regard to their character, but their efficiency. I might say a few words about what the hardware jobbers can do for you manufacturers. I was with a hardware jobbing company for twenty years, and for the last fourteen years I have been on the other side of the fence—selling the hardware jobbers. I believe that they have the best methods of distribution that there is in this country today, and that means for anybody's goods that they can handle. I was very much surprised the other day to get a letter from one of our Eastern jobbers on the business conditions of today, and in that letter he listed the principal manufacturers with whom he dealt, and I was very much surprised to find that at the top of the list the largest purchases that that jobber was making were automobile sundries. Now, that man dealt in axes, wire nails, barbed wire, and goods of that kind, to people that sell hardware of that kind; but here is a hardware jobber who is selling more goods in the automobile accessory line than he is selling in his regular hardware business.

#### **Convention Benefits Buyers and Sellers.**

"It occurs to me that this meeting today ought to bring results to both sides of the family—the buying and the selling side. I believe that your meeting here will be one that will be of great value to each of you, and your meeting here is under entirely different circumstances from what we generally meet under at Atlantic City. There the subject of business is rather tabooed. You have come here to see what you can

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The immense proportions to which the business of automobile supplies has grown is well illustrated by the first annual convention of the Automobile Accessory Branch of the National Hardware Association which was held March 20 and 21, 1919, in the Hotel Statler, Detroit, Michigan. The rapid development of the trade from small beginnings was graphically portrayed in the opening address of the chairman of the convention, A. H. Nichols, of Buhl Sons Company, Detroit, Michigan.

**Thursday, March 20, 1919.**

The convention was formally inaugurated by the singing of "America" by the entire assembly. At the close of the anthem, A. H. Nichols, president Automobile Accessory Branch of the National Hardware Association, said:

**Address of A. H. Nichols, Chairman Automobile Accessory Branch National Hardware Association, at First Convention of This Branch in Detroit, Michigan, March 20, 1919.**

"Gentlemen, it gives me great pleasure to welcome you to this, the first distinct and separate meeting ever held by our Automobile Accessory Branch, and I hope that this meeting will only be a marker for many more such conventions. If you will take a look at our Exhibit Room, you will see the great interest that our associated members have taken in this meeting, and the large attendance that we see here at this meeting, our first or opening meeting, shows the great interest that is being taken by everyone throughout the country in this new enterprise, for, at this meeting, nearly every state in the Union, and every important city in the United States, is represented. This, I think, speaks a very great deal for practically a new enterprise. I believe it was in 1893 that the Barnum-Bailey circus advertised as one of their greatest curiosities the horseless carriage, and I am told that they relied upon the drawing features of that curiosity for their financial success for that year. Now, when you take into consideration the fact that a few years ago the first automobile was not used, and automobile accessories were unknown, it certainly is something wonderful, the great growth and magnitude of this enterprise today, for it is one of the largest, if not the largest, in the world.

### Immense Sums Invested in Accessories.

"I do not think there are very many of us that have any conception of the billions of dollars that are today invested in the manufacture of motor-driven vehicles, and in the accessories. Perhaps I could illustrate that by calling your attention to a gentleman in our city, a man here that just a few years ago was living perfectly contented, his only income being that of an ordinary machinist, who enjoyed carrying his tin dinner pail the same as many others have. Today he is known all over the world; he has his friends everywhere, and he is the possessor of an income annually of many millions of dollars. He is without doubt the greatest money maker that has ever been known, the most successful one, at least; but it required the automobile industry to develop his talents. And then, I can also point you to large fortunes that have been accumulated in other business lines, but which have almost instantly disappeared when invested in this new industry. So that, when we look back and see the mistakes of others, I have felt like condemning the hardware dealers for the mistakes that they make, for the fact is undisputed that the hardware dealer allowed the thought to prevail that automobile accessories were entirely foreign to the hardware business. He did not realize that he had sold automobile accessories long, long before an automobile was made. But he considered automobile accessories as consisting of many new inventions; some of them were successful; the majority of them were failures, and as a result of this erroneous belief on the part of the dealer, the automobile owner formed the habit, when he wanted anything for his machine—his automobile—of going to the garage, or the new dealer, the accessory dealer; but when he wanted a wrench or a hammer or a pair of pliers, or some tool for his farm or his factory, why, he went to the hardware store, just the same as he always did.

### Hardware Dealer Is Logical Retailer of Accessories.

"Now, the National Hardware Association realized the mistake that the hardware dealer was making, and in order to educate him to that fact, that he was the natural source of supply of all automobile accessories, they formed this branch; and in 1916 they held their first meeting at Atlantic City. The National Hardware Association have been holding meetings for some twenty-six or twenty-seven years, but the first automobile accessory meeting was held in 1916. They also realized the great help that the manufacturer could be in this educational work, and so they invited the manufacturer, who wished to cooperate with the hardware dealer, to assist in advancing this work and become an associate member; and as a result, the hardware jobbers of the United States and the automobile accessory manufacturers



are meeting here today in convention. We are not here to coerce or to condemn, to make rules, or establish laws. We are here absolutely for educational purposes. We want a free and open expression from every member here. We want to profit by your experience, or by your mistakes, so that you may profit by our mistakes. This Association would not, if it could—and it could not, if it would—tell you gentlemen how to conduct your business. You all have the same right to do as you please after you leave this convention. The manufacturer may sell to whom he may wish; he may charge whatever price he may desire, and the jobber reserves the same right to spend his money wherever he thinks it is for his interest to spend it. Individually, we may have some thoughts different from others, but I believe, if there is anyone here that does not believe in cooperation, he would not be a member of this Association. I think you all will agree with me that the garage is a necessity, and should be encouraged, but the garage man is not naturally a merchandiser.

#### **Hardware Man Is Best Equipped to Sell Accessories.**

"The hardware dealer, from his long experience in the hardware business, is familiar with the different makes, and is a better judge of their grades, and certainly must be a better merchant to buy the accessory than the less experienced merchant, who is so apt to be deceived by the goods that may have a fine finish, but are manufactured only for a price. There is the additional investment that is necessary, which would naturally increase the hardware dealer's overhead, but not to any material extent. You manufacturers should remember this one point, that the hardware jobbers represent your goods in every town, in every hamlet, in this country, and certainly ought to be able to represent your goods in these crossroads, at a price that would be suicidal for you, or a specialty man to attempt to reach. So I can see no reason why we should not look to the hardware dealer, the natural source of supply, for all of the automobile accessory sales.

#### **Opportunity for Hardware Man to Become World's Greatest Merchandiser.**

"This great enterprise is practically in its infancy. The automobile is used today more than the horse and carriage ever was. The motor truck is a great competitor of the railroad in the transportation of freight, and the good roads will make it a still stronger competitor. It will not be long before every farmer will have a tractor, and some of them many more. Flying through space on air is no longer a dream, and soon every city of importance will have landing fields. A New York street will reach from New York to San Francisco. A New Orleans street will reach from New Orleans to Montreal. These streets will be lighted, and traveled by night, and they will have anchor balloons to guide them by day. I only mention these things to show you the great work that we have before us, and the necessity of building now on a concrete foundation. The dealers should realize that they have a great opportunity, through the automobile accessory business, to become the world's greatest merchandisers. The manufacturer should realize the importance of looking into the financial standing of the

people with whom he wishes to do business. He should not build just for today, because the financial standing of the people that you deal with will be a very important factor in the near future. The conditions of the past year or so possibly have not had a tendency to increase the sale of automobile accessories. This great cry for economy—the desire that every citizen has had to make the old do—would naturally have a tendency to curtail the output, and yet, if you take the matter up with your hardware dealers, I know they will tell you the year just closed has been the most successful year that the automobile accessory department has ever had. For this, gentlemen, I credit the National Hardware Association, and the assistant work that has been done through this branch; and I am not unmindful of the wonderful help that the associate members have given us in this work."

For the hardware dealer who has not given much thought to the sale of automobile accessories, some very startling and enlightening facts are set forth in the address of W. D. Biggers, Chairman of the Executive Committee American Hardware Manufacturers' Association, who spoke as follows:

**Address of W. D. Biggers, Chairman Executive Committee American Hardware Manufacturers' Association, at the First Annual Convention of the Automobile Accessory Branch of the National Hardware Association in Detroit, Michigan, March 20, 1919.**

"I represent the American Hardware Association, an association that is very closely connected with the Hardware Jobbers' Associations of this country. I have no doubt that there are many men in this audience who do not know the hardware jobbers as well as I do, and that is not particularly in regard to their character, but their efficiency. I might say a few words about what the hardware jobbers can do for you manufacturers. I was with a hardware jobbing company for twenty years, and for the last fourteen years I have been on the other side of the fence—selling the hardware jobbers. I believe that they have the best methods of distribution that there is in this country today, and that means for anybody's goods that they can handle. I was very much surprised the other day to get a letter from one of our Eastern jobbers on the business conditions of today, and in that letter he listed the principal manufacturers with whom he dealt, and I was very much surprised to find that at the top of the list the largest purchases that that jobber was making were automobile sundries. Now, that man dealt in axes, wire nails, barbed wire, and goods of that kind, to people that sell hardware of that kind; but here is a hardware jobber who is selling more goods in the automobile accessory line than he is selling in his regular hardware business.

#### **Convention Benefits Buyers and Sellers.**

"It occurs to me that this meeting today ought to bring results to both sides of the family—the buying and the selling side. I believe that your meeting here will be one that will be of great value to each of you, and your meeting here is under entirely different circumstances from what we generally meet under at Atlantic City. There the subject of business is rather tabooed. You have come here to see what you can

learn, that will help your business. The manufacturer must distribute his goods in the most efficient and effective possible way, and I believe that the five, six, or seven thousand salesmen that are helping these hardware jobbers can distribute your goods in the most efficient way there is today. It may mean some changes, and yet here is a thought that I would give you:

#### **How to Eliminate Exorbitant Prices.**

"The greatest detriment to the automobile business today is this very matter of sundries and accessories. Every one of you as individuals have been stung so many times in buying little things for your car that you are almost disgusted with the automobile business, from the driver's standpoint. There is no reason for paying an exorbitant price for all of these sundries, if they were distributed properly, and I really believe that your meeting here today in a convention will help you to solve that problem."

At the termination of Mr. Biggers' address, the Chairman called upon several members for an expression of opinion regarding the general business situation and the labor question. A. H. Decatur of Boston, Massachusetts, said that conditions in his state are much better than one would naturally expect. He urged a policy of buying what is needed sufficiently far in advance to keep pace with the requirements of the trade.

W. R. Hay of Duluth, Minnesota, said that business in his section of the country is mighty fine, the winter trade having been exceptionally heavy.

H. E. Hulburd of Cleveland, Ohio, reported that orders are numerous, but somewhat slower than usual. He said that there is a period of great prosperity in sight and predicted a big shortage in certain lines during the coming year.

W. H. Richardson of Austin, Texas, declared that, on the whole, conditions in Texas are good.

The perplexing problem of moving slow-selling stock into the channels of trade was helpfully dealt with by E. G. Evans of Lincoln, Nebraska. He took a practical rather than an academic view of the difficulty and cut the Gordian Knot with a clean stroke of reasoning. He spoke as follows:

**Address on "The Best Method of Disposing of Unsalable Goods," by E. G. Evans of Lincoln, Nebraska, Delivered to the First Convention of the Automobile Accessory Branch of the National Hardware Association at Detroit, Michigan, March 20, 1919.**

"It seems to me that it is presumptuous on my part to present a subject that probably every one here is better qualified to talk on than I am, as I represent a small house in the middle west—but the fact that I come from Lincoln, Nebraska, probably influenced your secretary in inviting me to speak, not appreciating the fact that orators 'come from' there, but do not 'live' there. Realizing that some one must do these things, and wishing to do my bit, I agreed.

"The subject assigned to me, 'The Best Method of Disposing of Unsalable Goods,' can be disposed of in two words, 'Sell them.' I know this sounds like a platitude, but really that is just what we must do, but how to do it to realize the most out of them, is the

real question. My judgment is that when you have decided that an article is unsalable in the regular course of business, it should be disposed of as quickly as possible, and you should not increase your loss by carrying it in stock indefinitely, with the hope of ultimately getting a better price for it, as usually the quicker it is sold the better will be the return, and by turning it into money it will bring a profit on the investment instead of adding to the loss by taxes, insurance and rental.

#### **Enumerates Various Methods.**

"Now that we have decided that certain merchandise must be sold, how shall we proceed to dispose of it? Some houses send a list to their salesmen, showing quantities, and with prices usually just a little lower than regular, and not attractive enough to make a quick clean-up. Others use a signal on their change sheets to call attention of the salesman to items that should be pushed. Neither of these plans produce results quickly enough, and spread your efforts, and your salesman's efforts, over too long a period, and are apt to create in the minds of your salesmen a lack of confidence in the ability of your buyers, in the event that your closeouts make a considerable showing.

"I have had salesmen tell me that their time could be used more advantageously in the sale of new merchandise and regular lines, than in selling junk, as they termed it, and while we were following this plan I could not agree with them, yet within my own consciousness I did agree, and often wondered if we were not doing our customers an injustice in offering them merchandise not quite up to standard even though the price were low.

#### **Must Be Priced Lower Than Fresh Stock.**

"Permit me, please, to refer to the list sent out by the National Hardware Association. This is a splendid idea, but I have seldom seen an item on that list priced low enough to attract one from their regular channels of purchase. This is not the fault of the Association but of the persons offering merchandise for sale, for if you are to buy 'old stock' probably in soiled and damaged cartons you must have a price materially lower than you would pay for fresh stock.

"Another plan used with more or less success has been to segregate the merchandise to be disposed of in the jobber's warehouse. This plan often results in items being scratched which have been sold by salesmen not knowing that the item was a closeout, and depends largely on catching the customers who come in to visit you and showing them this 'cemetery of buried hopes.' I wonder how the customer feels when he gets home and unpacks this merchandise and realizes that he has been lured by the siren voice of the House Salesmen into buying merchandise for which he has no real demand and which will probably mean a loss in the end. I do not believe that this would create confidence in the mind of the customer, and it might make him a little timid about making another visit. I grant that there are some merchants who apparently thrive on buying odds and ends, but they are unusual and can be taken care of in the plan I shall outline.

#### **Put Unsalable Goods on Bargain List.**

"After more than twenty years' experience as trav-



eling salesman, credit man and buyer, I have come to the conclusion that 'The best method of disposing of unsalable goods' is to take such merchandise entirely out of your stock and building, either before or after inventory, and put it in a building where it can be properly displayed with a convenient list of quantities and prices.

"Now you can notify your customers who like bargains and let them come in, giving them first chance, if you like. In every community there are persons who make a practice of buying stocks of merchandise, usually at low prices, but using your cost as a basis, and allowing the depreciation you are willing to take, you can make low prices and should be able to clean up your closeouts quickly, particularly if you can make your sale attract a number of customers at the same time, as cut price sales and competitive buying produce a psychological effect which is sure of results. While you may not realize as much in dollars and cents as by other methods, I believe in the long run you will be better off, as you can turn your efforts to the sale of clean merchandise, and not divide your interest between new and old goods. I am frank to say that this plan has not yet been tried by my house, but we propose to try it this year, as we believe this is an opportune time to do so, and it is my opinion that after a general clean-up this year a 'major operation' may not be necessary for some time to come."

#### Afternoon Session, 3 P. M.

The afternoon session began with a discussion of price tendencies by E. P. Atwood of Minneapolis, Minnesota, who expressed the belief that indications point toward the maintenance of prices now in effect or, at most, to a gradual decline. As one of the reasons for his belief, he referred to the excise tax.

Several of the delegates stated that they were guaranteeing prices for a fixed period of time. The majority of those who spoke on the subject were of the opinion that there would be no decline in prices for a long time, but that, on the contrary, in some instances, there would be further advances due to increasing cost of raw materials.

Mr. Hall of the Northwestern Chemical Company, Marietta, Ohio, spoke on the vital topic of advertising in place of Mr. Barker of his firm, who was unable to be present. His address is herewith appended:

**Address on National Advertising by Mr. Hall of Northwestern Chemical Company, Marietta, Ohio, Given to Convention of Automobile Accessory Branch of the National Hardware Association, Detroit, Michigan, March 20, 1919.**

"You will notice on the program that Mr. Barker was scheduled to give this little talk. It was necessary for him to be in Chicago, and I told him I would do the best I could for him. He jotted down a few ideas with reference to this subject, and I will use his ideas as best I can in whatever I may say. I might preface my remarks by saying that the subject of national advertising is too large a subject to cover in 10 minutes; it could not be done; there are too many ramifications to the subject. There are a few fundamental things which may be said perhaps to give us some food for thought. There is one fundamental which I could state, I believe, at the beginning, which

really answers the question, and then I can go ahead and discuss it.

#### Advertising and Prices.

"I think if national advertising reduces the wholesaler's profit there is something the matter with the manufacturer's scheme of prices. They should be adjusted at once.

"To discuss this national advertising, I think we should first assume that distribution has been attained. Primarily a good many men have gone on the assumption that the national advertising has created and would create distribution. Right now it is generally conceded that national advertising is grown into; it is jumped into. The man who is going to use national advertising, or who is using national advertising, has in most cases developed into that after having gone through the stages of planting his distribution in the various sections of the country, so he has a distribution upon which to build.

#### National Publicity Increases Sales.

"National advertising I believe is not a sales creator; it is a sales augmentor, because of the fact that by your distribution you already have some sales. The object of your national advertising is to augment those sales. Augmenting the sales means reduction in manufacturing cost, reduction in general overhead percentages because of the increased volume of business. There are examples of that in every line. I think the most concrete example I have seen in a long time was an example of production brought on by the war. It was my privilege to act as president of a little company that was making hand grenades, and the firing mechanism for the hand grenade was estimated by the War Department to cost 27 cents to start with. They then reduced that to 23, and finally when actual production was started it came down to about 16. This company that I was connected with got into the production in a heavy way on the basis of about 4,000,000 a year, and their costs were between 3 and 4 cents per unit upon that large order. Now that, of course, was not the outcome of advertising, but it was the outcome of quantity production, but that is what you are after when you are going into national advertising. You are going into national advertising because you want to increase the volume of your business and cut down your overhead manufacturing cost. Now the jobber knows his expense of doing business, and he knows he must cover this expense on every line he sells. The full line will be forced to take the loss all through. The manufacturer must consider this in working out his sales plan; not only his own profit must be considered but he must also consider the profit of his jobber and his dealer.

#### All Factors Must Be Considered.

"If he does not consider the profit of the jobber and dealer the national advertising will do him no good because it has been proven time and time again that while you may think—or while a manufacturer may think—he can force a market, he finds that the market comes to him much more readily through cooperation than it does through forcing. Forcing goes just so far, as we know, and then it ceases. We must have cooperation of those that are working with you the same as you must have all parts of a good machine working in absolute harmony.

**Advertised Goods Must Be High Grade.**

"Now there are one or two phases of national advertising of a product that I think will redound greatly to the benefit of the distributor. There is no one single feature that stands out more prominently in national advertising of products than the fact that that product itself must be standard and up to a high quality in every respect. That is true because a manufacturer is going on record every day. He says 'My goods are so and so, and my prices are so and so,' and the customer goes to the dealer with the expectation that he is going to get that quality and that price, and if he does not get it he immediately thinks it is the fault of the manufacturer, because it was the manufacturer that directed him to the dealer. He has to come clean before the dealer and the jobber. Those are all matters that I think are pertinent to the national advertising of a product. There are a great many ramifications, but I do not think it is best to go further into that subject at this time."

**Friday, March 21, 1919.**

A thoughtful study of the matter of price cutting was given to the Convention by L. C. Webb of the Lee Hardware Company, Salina, Kansas. Among other things, he said that "there are only two reasons for price cutting, one is weakness or inefficiency in the sales force, the other is lack of judgment on the part of the buyer. No jobber should ever ask his customer more than a reasonable profit and if he can not close the sale at that figure let his competitor have the privilege and the joy (?) of selling what merchandise is sold on that territory without a profit. No jobber can get all the business from a territory and he will be better off for letting the price cutter take all the business in which there is no profit."

"It is not necessary for any reputable concern whose integrity and good standing with dealers is beyond question to become panicky and cut prices on staple merchandise and the price cutter is always regarded with suspicion by the customer and in order to hold the business he must continue to cut prices or the dealer quits him and goes back to the house that does not need to be watched and whose methods are above suspicion."

"When any jobber goes to the dealer with a string of cut prices by this act he acknowledges that he is not able to hold his own in a game of fair play and thus shows that he is a cheap sport. He weakens his chance of holding the dealer's business as the dealer will demand and has a right to expect a continuation of cut prices."

A discussion of the "Advantages to the Wholesaler of a Minimum Quantity Price" brought out many interesting points. Mr. Clayton of Clayton and Lambert Manufacturing Company, Detroit, Michigan, spoke briefly on the subject, as follows:

"I do not know as I can add anything to what has been said. I believe the best way for a jobber to market a given article is to take one of our brands of an article and push it. We have done our business solely through the hardware jobber. We make every effort to assist our jobbers in merchandising the goods they place upon their shelves. If they buy a bill of goods it is our lookout and intention to put a missionary man

in that territory and work with their representative. The Derf spark plug has not been known in the West as it is known in the East. I cannot meet all of you, as much as I would like, but I will say this, that we are with the hardware jobber tooth and nail and we are going to see that he gets the Derf spark plug."

The question of marketing automobile accessories was ably discussed by George W. Ellis of the Supple-Biddle Hardware Company, Philadelphia, Pennsylvania, who pointed out the irresistible effect of sound salesmanship combined with judicious advertising. His speech was as follows:

**Address Delivered by George W. Ellis of Philadelphia, Pennsylvania, at the First Convention of the Automobile Accessory Branch of the National Hardware Association, at Detroit, Michigan, March 20, 1919.**

"My subject is one that naturally interests the hardware trade. If it were possible for me to megaphone to all the jobbers of accessories in these United States a message of big benefit, the message would be this: The Chief Problem in the Marketing of Accessories Is Solved. I am encouraged to make this significant statement for the reason that this Convention appears to reflect something really mutual or cooperative, which inspires confidence."

**How to Meet Competition Fairly and Successfully.**

"Our first purpose should be to do a successful business, and our first consideration should be that of finding out whether this is possible and how to do it, unless—unless we dig deeper; let's dig deeper. The accessory business is now only at the beginning of a future evolution, and one of the greatest of the practical questions now is how to meet demand and competition fairly and successfully, and to have the most effective form of organization to accomplish that result."

**Efficient Organization Brings Success.**

The central idea of our effort is to find intensive efficiency, and the economies of this efficiency should be such as to set aside the awkward operation of less highly organized business, overflowing with a wild enthusiasm, that is, I will call it 'wild enthusiasm' for want of a better word."

"While we are gathered here, we can be glad of the opportunity afforded to exchange information and to contribute ideas, and to adjust them with a view to obtaining the most far-reaching benefit for all concerned. It is almost impossible to agree upon a tangible basis for lubricant that will set everything moving smoothly. Some variations of the selling energies seem the best way out of the tangle. Good goods, pushed by well organized, well advertised, and skillful sales management, on a scale that combines extensiveness and intensiveness, win in all markets."

**Good Salesmanship Is Essential.**

"The fact of good salesmanship in marketing is so important that the services of high class men are essential. Some well informed men who are not given to 'loose talk,' are of the confident belief that the accessory business is making the most rapid progress toward readjustment, and this may account for the headlines I have seen, 'Accessory Men Optimistic.' Who ever knew an accessory man to be anything but optimistic? A big program of future progressive mer-



chandising and development is in the minds of all of us. For the creation of a large scale business, we must be broad commercially and generate such current as will enable us to always accord the manufacturers justice when the maintenance of prices for quantity and the competition of catalog houses are issues.

#### **Price Competition Increases Overhead.**

"From my viewpoint, few, if any of us, fully recognize that the wide awake retail merchants generally allot business in consideration of certain degrees of efficiency more commonly known as 'service,' and that price competition automatically limits our profits and adds to the continued burden of overhead.

"I am inclined to believe that if you and I can be properly sold this prescription, and will faithfully take the formula, and go as far as we like, it will give us sufficient commercial courage to write each other later on 'before and after taking' testimonials on the now only remaining problem in the marketing of accessories."

That there is room for improvement in the matter of credit is generally conceded by students of merchandising. Consequently, any contribution to the betterment of prevailing conditions is certain to find a welcome approval. Many practical suggestions in this direction were offered by E. E. Patton of Bangor, Maine, in his instructive address which is herewith appended:

**Address by E. E. Patton of Bangor, Maine, on "Improving Credit Conditions," Delivered to the Convention of the Automobile Accessory Branch of the National Hardware Association in Detroit, Michigan, March 21, 1919.**

"Improving credit conditions? Why the necessity of improvement? Judging from a little experience which we had some time ago it would seem that our competing jobbing friends down East thought there was no need or room for improvement—that the ultimate of perfection had been reached.

#### **Trade Acceptance Is Not a Panacea.**

"We will all admit that the Trade Acceptance is a wonderful factor in modern finance and bound, solely on its own merits, to become increasingly so, even though we do not agree that it is the one and only panacea for all credit ills. Yet when we adopted it about a year ago, a few of our competitors made so much capital of it by telling the trade that they would sell them goods on credit without asking them to sign a note or trade acceptance for the amount, that we were forced to abandon the plan for the present. Even our bankers, members of the Federal Reserve System at that, penalized us on collection charges. However, as this topic has been assigned, we will subject it to a critical consideration, assuming that you are all convinced—as I am—that there is not only room, but imperative need, for improvement. If any question the need, I can only say that in our experience we have found the business death rate in the garage and auto trade about double that in our other lines. By death rate I do not mean failures only, but all business changes, as many are far sighted enough to get out of business before they fail.

"We find it appropriate and expedient to solicit business from garages and car agents. These dealers

are an integral part of the automobile industry and are entitled to regular trade prices. Accessory jobbers who are not selling hardware solicit their business. This is a class of business that the retail hardware store cannot secure. We therefore call on them, finding no resentment voiced by our retail hardware customers.

"This trade is not solicited by our regular hardware salesmen, but by auto accessory salesmen who confine their efforts to this line.

"Presumably I am expected to outline a plan of procedure whereby we might eventually reach that Utopian state when past due accounts, reserves for bad and doubtful accounts, collection expenses, and other similar words, phrases and accounts, would be entirely eliminated from our business vocabulary; when the credit man has laid down his pen and gone to work in the packing room or in some other productive capacity, and Dun and Bradstreet's books have fallen into a state of innocuous desuetude.

#### **Much Progress Has Been Made.**

"However much we all feel that this day is still very far away in the dim, indefinite future, we are all agreed that a great advance in the right direction has been made in past years; that approached in the proper spirit we shall make still greater progress in the future. I have enough faith in the abilities of the business men of this nation to believe that we can solve the problem, and while bad debt losses can never be entirely eliminated, they can and will be materially reduced.

"The problem before us calls for an analysis and study of the underlying causes of business failure and having found the source of trouble to apply the necessary correctives.

#### **Underlying Causes of Business Failures.**

"According to results of Bradstreet's compilation of statistics covering a period of years, it has been shown beyond possibility of successful contradiction that the individual is largely responsible for his own success or failure—in other words, in the great majority of failures the cause is inherent in the individual himself. Accordingly, we will confine our attention wholly to those cases which might be considered the personal element.

"One case, however, over which the individual had no control, in which we are among the victims, is so unusual that we will mention it. In the latter part of 1917 or early in 1918 a young man from a nearby town applied to open an account. As everything seemed satisfactory a small line was granted until he had shown his capabilities; his capital was limited and furnished mostly by relatives. The account was opened, some orders shipped, terms agreed upon, complied with for a time, and everything appeared to be progressing favorably, when abruptly, payments and orders stopped. Investigation disclosed the fact that the army training camps located in his town were doing all the repair and overhauling work of that town and the surrounding country, free of charge as training and experience for the motor mechanics; very necessary if we were to win the war, but much to the disadvantage of our young friend, so much so that one car that was in his garage for overhauling

was taken out and the work done free of charge by Uncle Sam's embryo mechanics. I might add that we are still waiting for our money, and now that peace is about to be attained we have fair prospects of receiving the amount.

"Consideration of this subject will be confined wholly to experiences with and conditions peculiar to the garage trade, though these observations might apply with only slight modifications to any line of business.

#### **Starting Business Without Training and Capital.**

"Consider the class of men with whom we must do business. The man starting a garage is apt to be a good mechanic with little or no capital and with an almost total lack of knowledge of the fundamentals of good business; either dissatisfied with his job or eager to corral some of the enormous profits which he sees—or thinks he sees—his employer making. He decides to open a garage for himself. And here comes the first problem. He rents a shop and embarks on his business career. Usually most of his capital goes into equipment and tools necessary for his new enterprise. His lack of knowledge of the fundamental principles of business can be blamed for the fact that too large a proportion of his capital has gone into fixed assets and his returns do not come in sufficiently fast for him to meet his maturing obligations, and he finds himself handicapped from the beginning.

"Believing that he will take with him most of the customers of the old concern, he lays in a large stock of parts and accessories to be ready for them when they call—and many times the call comes so late that the profit has all been consumed by the inevitable overhead before he has an opportunity to use the goods.

#### **Lack of Proper Accounting System.**

"Another thing that makes it hard for the garage man, and especially the smaller one, is that the peculiar nature of the business makes it very inconvenient for him to keep adequate records. He may be a good mechanic, and due to the fact that his entire time and attention is consumed by the mechanical details of the shop, he neglects to properly attend to the necessary accounting duties. He can recall instances where a man's wife has been an equal factor with him in his success, in this, that she attends to the office work and collections. Of course, not all of them have wives, and probably all wives would not be capable of handling this part of the business.

"The point I am trying to make, however, is that it is imperative that some arrangement be made whereby the accounting be given the attention it deserves.

"This also explains why the garage man frequently has so many slow pay customers on his books.

"The various other elements entering into the consideration of this subject, such as speculation, neglect of business, extravagance, and fraud, need not be elaborated upon, as until human nature has been completely changed these tendencies will be ever present. Needless to say, the credit man must always have his ear to the ground, with his mind in a receptive attitude, as oftentimes valuable information will come to him from very unexpected sources.

#### **Must Not Overload Customer.**

"Another point to be mentioned is the ever-present specialty salesman—not that we do not value highly the help he has given us, but our smaller customers must have a credit limit, and should not be urged to buy up to the limit on one item alone. I believe that the specialty salesman should always cover the territory in conjunction with our own men and be advised by them in regard to what would be a reasonable quantity for any customer to buy, especially such items as lubricating oil, tires, and the items that easily run into large amounts.

"I have in mind an instance of an oil concern that apparently is trying to make a jobber of every garage. In one instance, particularly, a carload of oil was sold to a small-town garage with a blank rating in Bradstreet, at the same discount given the regular recognized jobber, not only overloading on this one item but making it exceedingly difficult for the owner to meet his other obligations.

"Now, perhaps we jobbers must share some of this responsibility, perhaps we are frequently overly anxious to swell our volume.

"It is my belief that the remedy for existing conditions lies almost wholly within our power to administer, and having outlined some of the causes responsible for the slow pay and no pay customer, let us consider briefly what can be done to eliminate or at least reduce this expense burden.

#### **How to Strengthen Credit Department.**

"First we assume that every jobber has a credit department that is fully alive to its responsibilities and opportunities, and fully capable of measuring up to them; the credit manager is anxious to see the firm get all of the business it can safely handle.

"Having this equipment, it is the duty of the credit manager, personally whenever it is at all possible, to ascertain how much knowledge the prospective customer may have of the fundamentals of good business. If he is somewhat deficient in this respect, a good heart-to-heart talk, given in straightforward man-fashion, helps wonderfully. Of course, it is not always possible to meet every customer personally, and in a limited time learn of all his faults and weaknesses. This is where the salesman and the credit man must cooperate. The attitude of the average salesman is that the credit man is continually tearing down the business that he is building up. But nothing is farther from the truth. Every credit man worthy of the name, and with the best interests of his firm at heart, is just as anxious to increase business as is the salesman. Both should be actuated solely by the desire to do all the business that can be done safely, and at a profit.

#### **Quick Turnover Is Secret of Success.**

"The salesman should and usually does have as good a knowledge of the fundamentals of good merchandising as the credit man, and should be as anxious to see that his customer follows along the lines recognized as being safe and necessary for a successful business. He should firmly believe—and in this should be backed up by his house—that he is not justified in selling anything on which the customer cannot make a profit, nor should he sell him more of a given item



than can be disposed of in a reasonable time. It appeals to me that any stock that does not show a clean turn-over of at least twice a year should be designated, 'Dead stock,' and be discontinued. The capital involved can be better used in live lines. *The quick turn-over is the real secret of successful merchandising.* The credit man should constitute himself a business adviser to the customer, and gradually direct him in the proper paths. If carefully handled, this can be done without friction, as the average dealer is only too glad to be able to call upon the jobber for advice and suggestions relative to the proper conduct of his business.

#### Jobber Can Not Act as Banker.

"Of course, if the necessary amount of capital is not forthcoming to assure the success of the venture, the credit man should show the prospective customer the inadvisability of beginning until sufficient capital has been secured. The function of a jobber is the distribution of merchandise and he cannot economically or consistently act as banker.

"The credit department should also take some pains and be willing to spend a little time and money to assist the beginner in devising and installing a proper accounting system. This should be simple and require a minimum of time and effort; it should show at all times a man's standing and costs of doing business, so that he can be in a position to recognize and eliminate non-paying lines. The item of second-hand cars taken in exchange on sales of new ones should always receive special attention. In our experience we have seen a dealer's prospects changed very much for the worse by this one item.

#### Credit Cooperation Between Competing Jobbers.

"Another thing that is not only desirable but necessary is a closer cooperation among the credit departments of competing jobbers—frequent exchange of ledger experience—to the end that the man who is running behind may be detected in time and the proper remedies applied. If only a mild dose is necessary, so much the better.

#### Too Much Credit Is Harmful.

"Perhaps some will take exception to the following statement; but I was fully convinced that the jobber or manufacturer that insists on prompt payment of accounts is the real *best* friend of the man operating on small capital. I firmly believe that more failures have resulted from too much credit than from too little. If a man knows that his bill is due on a certain date and must be paid promptly, he will not allow his own accounts to run until they become uncollectible. It is a constant and compelling force urging him to keep his house in order. He realizes that he must make good and, if he has the capacity, he will make good. Someone has said, and I believe it worthy of repetition:

"No man has a right to go into business and not make money. It is a crime to go into business and lose money, because it is a curse on the rest of the community."

"So, in eliminating this item of bad debts, we should consider ourselves in the light of public benefactors. Not to cope with this evil and eliminate it, if possible, will weaken our commercial structure. If we sell goods to a poor credit risk, who is a com-

petitor of one whose credit is unquestioned, we not only risk a loss on the poor account, but we are deliberately aiding him in undermining the credit basis of the good customer.

#### Reckless Price Cutting.

"Oftentimes the small dealer with little or nothing at stake enters into a campaign of reckless price-cutting, something that he is in no position to follow up, the only possible result being the complete demoralization of the trade in the locality, to the ultimate disadvantage of all concerned.

"So we must be ever on the alert, and when an account reaches the stage where the ax is necessary, do not hesitate. Use it.

"To recapitulate, we recognize: First: The value of the trade acceptance, and urge its more general use as rapidly as local conditions will permit.

"Second: The average garage has a high mercantile mortality rate and must receive the careful attention of the credit department.

"Third: The success or failure is largely due to causes inherent to the individual himself, and that he is apt to neglect the accounting part of the business while attending to the mechanical details of the shop.

"Fourth: It is most certainly not good business to overload a customer with any item of merchandise, thus jeopardizing his chances for ultimate success.

"Fifth: That members of our own organization have a responsibility in guiding and influencing the dealer to follow the straight and narrow path of business rectitude."

The place and time for the next place of meeting of the Accessories Branch was discussed. Atlantic City, Detroit, Cleveland, St. Louis and Chicago were named. After some discussion the general sentiment seemed to be in favor of Chicago as the next place of meeting. The time suggested was after the meeting of the National Hardware Association in the fall. The secretary said that at the proper time a poll would be taken of the membership on the subject.

The convention closed with an illustrated address on "Oil Refining and Automobile Lubrication," by F. H. Dickson of the Tide Water Oil Company, New York City.

### AUTOMOTIVE EQUIPMENT ASSOCIATION ADOPTS A NEW EMBLEM.

The ever-widening application of automotive equipment in social and industrial fields has made it advisable for the National Association of Automobile Accessory Jobbers to alter the title of their organization to one more nearly representative of the extent and variety of their transactions. Accordingly, at their Winter Meeting they changed the name of their organization to the Automotive Equipment Association. This necessitated the adoption of a new emblem, which is shown in the accompanying reproduction. The headquarters of the Automotive Equipment Association are located in Chicago, Illinois, and William M. Webster continues ably to fill the office of commissioner.



New Emblem of  
Automotive  
Equipment  
Association.

# HEATING AND VENTILATING

## PROPOSES TO REGULATE WARM AIR HEATING PLANTS IN MICHIGAN.

Dealers in and installers of warm air heaters will find many interesting things in the proposed bill to regulate and control the installation of warm air heating plants in the State of Michigan. The text of the tentative law is herewith reprinted for the careful consideration of our readers. We should be glad to publish any comments, favorable or otherwise, which subscribers wish to make upon any section of the bill or upon the general question of the advisability of such legislation:

### ARTICLE I.

*Section 1.*—Warm-air heating plants to which this act refers and is intended to cover, consist of one or more furnaces or heaters enclosed in galvanized sheet iron or brick casing, which, together with necessary appurtenances thereto, consisting of warm-air conductor pipes and fittings, cold air conductor pipes, ducts or boxes and fittings, smoke pipe fittings, chimneys and chimney construction, registers, borders and face plates, the same being intended for heating buildings in which they may be installed, and this does not include the pipeless or one register furnace.

*Section 2.*—Before proceeding with the installation of any new warm-air heating plant or the remodeling of an old one in any building situated within the State of Michigan, a permit shall therefor be obtained by the heating contractor from the department of building inspection, if such there be, otherwise the city, village or township clerk of the city, village, town or county seat within whose jurisdiction the said plant is to be installed. It shall be unlawful for any person, firm or contractor to proceed with any such installation unless a permit shall first have been obtained for that particular plant. The fee for such permit shall be one dollar, which shall be paid by the person applying for such permit to the said department of building inspection, if such there be, otherwise to the city, village or township clerk granting the permit.

*Section 3.*—Reports on the installation of warm-air heating plants shall be made in the following manner. When the work has progressed to the point where all register boxes and conductor pipes to be placed in walls or partitions have been installed the heating contractor shall in writing so notify the aforesaid department of inspection or said clerk, whereupon the aforesaid department of inspection, or said clerk, shall following the receipt of such notice or notices cause the reported work and material employed to be thoroughly inspected by a competent inspector. If upon inspection it is found that the work performed and the material used conforms in all respects with the requirements of this act and the rules and regulations thereof, the inspector shall affix a certificate or tag of

approval on such work. Should it be found that the work performed or the materials used, does not comply with the requirements of this act and the aforesaid rules and regulations, the aforesaid department of inspection shall in writing so notify the heating contractor who shall, upon receipt of such notice, proceed to make such changes as may be required. Such changes to be made within ten days from the receiving of said notices. Failure to make such changes as may be necessary that the work performed or material used, shall comply with the requirements of this act and such rules and regulations as adopted shall be deemed a misdemeanor and anyone convicted thereof shall be punished as herein provided.

*Section 4.*—Immediately following the completion of the installation of a warm-air heating plant, for which a permit has been issued, the heating contractor shall, in writing, so notify the aforesaid department of inspection, or such clerk, whereupon the aforesaid department of inspection, or such clerk, shall following the receipt of the aforesaid notice, cause the aforesaid plant to be carefully inspected by a competent inspector, and unless complaint is made immediately following final inspection the said heating plant will be deemed approved and favorably passed upon by the aforesaid department of inspection, or such clerk, providing, however, the said approval does not apply to the heating capacity or power of furnace, furnaces, heater or heaters used as a component of the complete heating plant, unless, however, the atmospheric conditions are at the time of final inspection such as to make it possible to try out or test the furnace, furnaces, heater or heaters under the conditions prescribed by and the requirements of Section 7 hereof.

*Section 5.*—Air conductor pipes or register boxes set in unfinished walls or partitions shall not, by lath, plaster, ceiling or otherwise be concealed unless a certificate of approval shall first have been affixed to such work, by the authority of the aforesaid department of inspection.

It shall be lawful for the aforesaid department or its authorized representative to remove or cause to be removed any material that may be used to conceal any air pipes or register boxes set in the walls or partitions.

*Section 6.*—No furnace or furnaces, heater or heaters, shall, as component of a complete warm-air heating plant, be installed in any building intended for occupancy or residential purposes, unless the said furnace or furnaces, heater or heaters shall have a known heating capacity or power, and are designed and constructed so as to provide for the maintenance of temperatures of 70 deg. Fahr. in parlors, libraries, main halls, living rooms, dining rooms and bathrooms, and a temperature of 65 deg. Fahr. in sleeping apart-



ments and kitchens, and the said internal temperatures shall be possible of maintenance, while the external or outdoor air is at zero Fahr. The internal temperature hereinbefore prescribed shall be possible of maintenance under the external atmospheric conditions hereinbefore mentioned without raising the inflowing air at or issuing from registers to temperatures higher than 160 deg. Fahr.

*Section 7.*—It shall be the duty of the aforesaid department of inspection, or such clerk, upon receipt of written request to do so, and payment of a fee of two dollars by any agent or owner, to cause a tryout or test to be made of any warm-air heating plant, for which the said department, or said clerk, issued installation permit, provided, however, the said tryout or test shall be made in the presence of the heating contractor and for the sole purpose of ascertaining whether or not the furnace, furnaces, heater or heaters involved are of the heating capacity or power as required by Section 6 of this Act.

*Section 8.*—Should it be found upon making the aforesaid test that the furnace, furnaces, heater or heaters are not of the heating capacity or power as prescribed in Section 6 of this Act, the heating contractor shall replace the said furnace, furnaces, heater or heaters by another or others of the required capacity or power. Failure upon the part of the heating contractor to promptly make the change prescribed will be deemed a misdemeanor and in violation of the terms of this Act, and will upon conviction of such violation be subject to the penalty hereinafter prescribed.

*Section 9.*—Stacks or riser pipes intended to conduct heater air to the second or third story shall be equal in cross-section area to at least 50 per cent of the cross-section area of the round basement pipes intended for connections therewith, provided, however, the aforesaid stacks or wall pipes have no offsets to exceed 4 in. between the foot piece or boot and the register boxes. Should the aforesaid stacks or wall pipes have offsets in excess of 4 in. between the boots or foot pieces and the register boxes, the offsets shall be fully equal in cross-section area to that of the round basement pipes intended for connections therewith.

*Section 10.*—First floor wall register boxes shall equal in cross-section area the round basement pipe intended for connections therewith.

*Section 11.*—Warm-air wall registers shall have free and open area equal to the cross-section area of the round basement pipes to be used in conjunction therewith.

*Section 12.*—By the term cold air ducts as used in this or other articles or sections of this Act is meant the pipes, boxes or ducts through which air necessary for any warm-air heating plant is admitted to the furnace or heater. The cold air for warm-air heating plants may be installed, or it may be taken partially from outside and partially from within. In no case, however, shall the cold air be supplied from any basement cellar or furnace room. The cold air for any warm-air heating plant shall be conducted to the furnace or heater through galvanized iron, brick or tile pipes or boxes, the joints of which shall be dust tight.

*Section 13.*—The architect, owner, agent, superintendent or contractor on any building in which a warm-air heating plant is to be installed shall make ample provisions for the reception of register boxes and riser pipes, which may be set in walls or partitions of such building. Neglect or failure upon the part of the aforesaid architect, owner, agent, superintendent or contractor to provide for the reception of aforesaid boxes and pipes, shall be deemed a misdemeanor and in violation of the requirements of this Act and the party or parties responsible will upon conviction be subject to the penalty hereinafter prescribed.

*Section 14.*—Round basement pipes for connections between casings of furnaces or heaters and registers, boxes or riser pipes having diameters of 12 in. or less shall be made of I. C. or heavier bright tin, and those having diameters of over 12 in. shall be made of I. X. bright tin or galvanized iron, which shall not be lighter than 28 U. S. standard gage.

Basement pipes forming connections between furnace or heater casing and register boxes or riser pipes, shall have horizontal runs of not less than 2 ft. between the casing collar and the register box or riser pipe, except in stores, churches and buildings of one room when a register face fitted with a border can be used, round basement pipes shall be fitted with damper so placed as to be easily accessible for manipulation, should warm-air conductor pipes pass through brick, tile or cement partitions or walls, they shall be surrounded by metal thimbles having diameter of not less than 1 in. more than the diameter of the said pipe. Should warm-air conductor pipes pass through wooden walls or partitions, they shall be provided with ventilated or safety thimbles not less than 1 in. larger diameter than the pipes passing them.

*Section 15.*—Should smoke pipes pass through wooden walls they shall be provided with ventilating or safety thimbles with inside diameter at least 6 in. greater than the said smoke pipe. The smoke pipe opening through the thimble shall have guides or braces so arranged as to maintain an open space of 1 in. entirely surrounding the smoke pipe.

There shall be a space of not less than 8 in. between any smoke pipe and exposed wood or plastered wooden walls or partitions. All exposed wood or wood covered with plaster that may be within 12 in. of smoke pipe shall be shielded or protected by coverings of sheet metal with lining of asbestos sheeting.

*Section 16.*—A furnace or heater to be installed as component of complete warm-air heating plant shall be set or erected at or near the center of the building in which it is to be installed. The architect, owner, agent or builder shall make all necessary provision for the location of furnaces or heater as hereinbefore specified.

No exposed wood or wood-covered with plaster shall be placed within 12 in. of the space allotted to or provided for any heater and the casing surrounding same, unless, however, the casing is built of brick or equivalent, in which case an air space of not less than 18 in. between the top of any heater casings and the ceiling above it and a distance of not less than 6 in. between the top of any metal casing and the ceiling

above, unless, however, the ceiling is non-combustible

*Section 17.*—The accompanying rules and regulations are hereby made a part of this Act.

#### Rules and Regulations

##### **License of Heating Contractor.**

*Section 1.*—Each heating contractor must obtain a license from the building inspector if such there be, otherwise the city, village, or township clerk before undertaking to install a warm-air heating plant, and this license shall be granted upon the payment of \$10.00 and a sworn statement showing that the applicant has had at least one year's experience in the installation of warm-air heating plants, and understands fully the requirements of this Act.

*Section 2.*—Each mechanic must register with the building inspector, if such there be, otherwise with the city, village or township clerk, the fee for which shall be 50 cents per year.

All work done upon the installation of a warm-air heating plant must be under the direct supervision of the heating contractor or a registered man.

*Section 3.*—(a) All furnaces or heaters shall be set on a brick or cement foundation.

(b) All metal furnace casings shall not be lighter than No. 26 gage galvanized iron, and shall have a lining or linings of asbestos and bright corrugated tin, corrugations to be not less than  $\frac{1}{2}$  in. deep, sides of bonnet or (top) to be lined with asbestos and flat bright tin.

(c) All warm air pipes shall have an elevation of at least 1 in. to the foot.

*Section 4.*—All floor register boxes must be either double or lined between box and floor with tin and asbestos. All side wall boxes on first floor to be double or lined between box and floor with asbestos and tin where they come in contact with any combustible material.

*Section 5.*—To determine the heat requirements of any given room in square inches of pipe area, the following rules shall be followed.

Find the total square feet of glass surface in windows and outside doors, taking the full measurements and counting outside doors as all glass; then measure the surface in exposed outside wall, from which subtract the glass surface, reduce the wall surface to equivalent glass surface by dividing the net amount by:

10, if wall is 8 to 10 in. thick.

15, if wall is 12 to 26 in. thick.

20, if wall is 26 to 38 in. thick.

To this result add the glass exposure; then as 1 sq. ft. of glass surface cools 72 cu. ft. of air per hour, multiply the total glass equivalent by 75, which gives the total cubic feet of air to be heated to offset the loss from the glass and wall exposure. This total added to the cubic contents gives the amount of air to be heated.

For a temperature of 70 deg. Fahr. in zero weather multiply the amount of air to be heated by 0.012, and the result will be the heat requirements in square inches of pipe area. For each degree below zero for which the heating is to be required, add 1 per cent to the heat requirements.

*Section 6.*—All smoke pipes must be of at least No.

24 gage iron, and in all cases must be as large as smoke pipe connection on heater provided by manufacturer. Reduction in size of smoke pipe will not be allowed in any case.

*Section 7.*—All furnaces or heaters installed in accordance with the requirements of this Act must have a free air-space of at least 15 per cent greater than the cross sectional area of all the warm-air pipes used, or taken from the bonnet of the casing.

*Section 8.*—Furnace contractors shall make and file with the building inspector, or said clerk, at his office, a monthly report, such report to be filed on or before Wednesday of each week, and shall cover the work done during the preceding week. This report shall cover all furnace jobs roughed in or finished in such city, village, or township. All new register, pipes, fire pots and furnaces, the cost of which exceeds (\$10.00) ten dollars. This report must show the street and number or the location of the premises where the work was done, also owner's name. If no job was done during the month to the amount of \$10.00, a report shall be filed stating no work was done.

*Section 18.*—Any person who shall violate any provision of this Act shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not to exceed \$50, or imprisonment in the county jail for a period of not to exceed twenty days, either or both in the discretion of the court, and any person or any heating contractor who shall violate any provision of this Act shall forfeit the license granted to him by virtue of this Act.

#### **HAS SAFETY LOCK AT BOTH ENDS.**

The Michigan Safety Furnace Pipe Company of Detroit, Michigan, claims that its nested hot air pipe is the only pipe made that has a safety locking device at both ends. This is employed for the purpose of preventing the pipe from sagging when it is put together and, therefore, it cannot collapse unless purposely taken apart. It needs no hammering and no



Michigan Adjustable Elbow  
Made by the Michigan Safety  
Furnace Pipe Company, De-  
troit, Michigan.

tools are required to put the pipe together. All that is necessary is to lock each end. Each joint, after being locked, is a finished product. The Michigan Safety Furnace Pipe comes in fifty foot packages, in a black iron cask with wooden ends and can be left in the original cask until used up. It occupies but a small portion of the space required for common round pipe. This pipe is very sturdily built and as a result has met with the approval of warm air heater dealers and installers. In the accompanying illustration is shown the Michigan Adjustable Elbow for use in connection with this hot air pipe. It can be used for angles ranging from 180 degrees or straight to 90 degrees. Those interested will find it to their advantage to communicate with the Michigan Safety Furnace Pipe Company, 113-115 East Fort Street, Detroit, Michigan.



## BUYS EQUIPMENT, PATENTS, AND GOOD WILL OF WARM AIR HEATER FIRM.

All patterns, equipment, patents, and good will of the May-Fiebeger Company of Akron, Ohio, have been bought by the Newark Stamping and Foundry Company of Newark, Ohio, to be moved to the latter town. The May-Fiebeger Company has been manufacturing warm air heaters for 29 years and its Ath-A-Nor, Akron Air Blast, and Solid Comfort Warm Air Heaters are favorably known to the trade in the Ohio territory. The purchasing company plans to erect a new building to take care of this added department and to increase its capital stock to \$150,000 to meet the requirements of this enlargement of its business. As makers of wood and metal patterns, foundry flasks, gray iron castings, and metal stampings, the Newark Stamping and Foundry Company has earned a sound reputation for reliable material and workmanship. It is, therefore, reasonable to infer that it will bestow the same careful attention upon the manufacture of warm air heaters which has characterized its production in other lines.

## IS INSTALLED WITH LITTLE TROUBLE.

For providing a good draft, the "Everlasting" Cast Iron Smoke Pipe, a section of which is shown in the accompanying illustration, and which is made by the



24-Inch Section Everlasting Cast Iron Smoke Pipe. Made by Waterloo Register Company, Waterloo, Iowa.

Waterloo Register Company of Waterloo, Iowa, is highly recommended. This pipe is very neat in appearance and is installed with very little trouble. It derives its name from the material of which it is made, as it is said to last an unusually long time. It will fit any distance, as it is made in sections. Installers are assured that the "Everlasting" Cast Iron Smoke Pipe will last as long as the warm air heater itself, with normal treatment. The Waterloo Register Company issues a catalog containing complete information with reference to its smoke pipe, registers, fittings, and accessories necessary for a heating plant. Dealers and installers should address the Waterloo Register Company, 137 Rath Street, Waterloo, Iowa, for further particulars, and its catalog.

## PUSHING THE CLOCK AN HOUR AHEAD SAVES OVER MILLION TONS COAL.

Because of the fact that the clocks of this country will be moved forward one hour at 2 o'clock Sunday morning, March 30, in compliance with the "Daylight saving" law, the United States Fuel Administration called attention to the estimates made last October that 1,250,000 tons of coal were saved during seven months last year through the operation of this law.

The plan was adopted in the United States after its success had been demonstrated in Great Britain, France, Italy, Germany, Austria, Holland, Denmark,

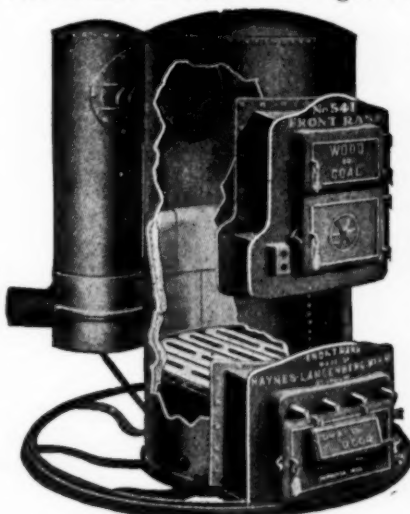
Sweden, Norway, Portugal, Australia, and Iceland. In European countries the period during which the clock is advanced is in most cases shorter than the seven months adopted as the United States plan, because Europe is farther from the equator than this country, and early sunrise prevails during a much smaller portion of the year.

In Great Britain the plan is operative only during four and a half months, while in France the clocks are moved forward for a period of only three and a half months.

Coal production in this country having been at a low ebb for the last five months, there are fears of a severe shortage next winter, particularly if the weather should be cold and stormy. The economy which will be effected by the "daylight saving" law this year, therefore, may prove to be a direct advantage.

## BURNS ANY KIND OF FUEL.

A large amount of radiating surface in comparison with the size of the fire pot is necessary for an economical heater. This surface must be arranged so that the air in passing upward will come in close touch with every part of it. By referring to the accompanying illustration, it will be seen that the Front Rank Warm Air Heater is built on straight vertical lines and this



Front Rank Warm Air Heater, Made by Haynes-Langenberg Manufacturing Company, St. Louis, Missouri.

causes the air in its ascent to come in direct contact with the entire surface. This principle is one of the strong features of the construction of this heater. The fire pot is lined with fire clay tiling which is practically indestructible. On the larger heaters, heavy cast plates extend from the tile lining to the radiator col-

lars, thus protecting the steel in the most exposed part. The drum and radiators are self-cleaning and will not choke up, it is said, even with the dirtiest soft coal. The only part that needs cleaning is the horizontal dust box which can be done very easily. Any kind of coal or wood is burned successfully by the Front Rank Steel Warm Air Heater. Dealers should communicate with the Haynes-Langenberg Manufacturing Company, 4058 Forest Park Boulevard, St. Louis, Missouri, for further particulars.

## ADVERTISING SHOULD BE INTIMATE.

Unfortunately, a great deal of advertising is printed which is neither intimate nor enthusiastic, but is stiff and repellant to the last degree. If advertising is printed salesmanship, there is much advertising which is deaf, dumb and blind, as far as its selling ability is concerned.

# PRACTICAL HELPS FOR THE TINSMITH

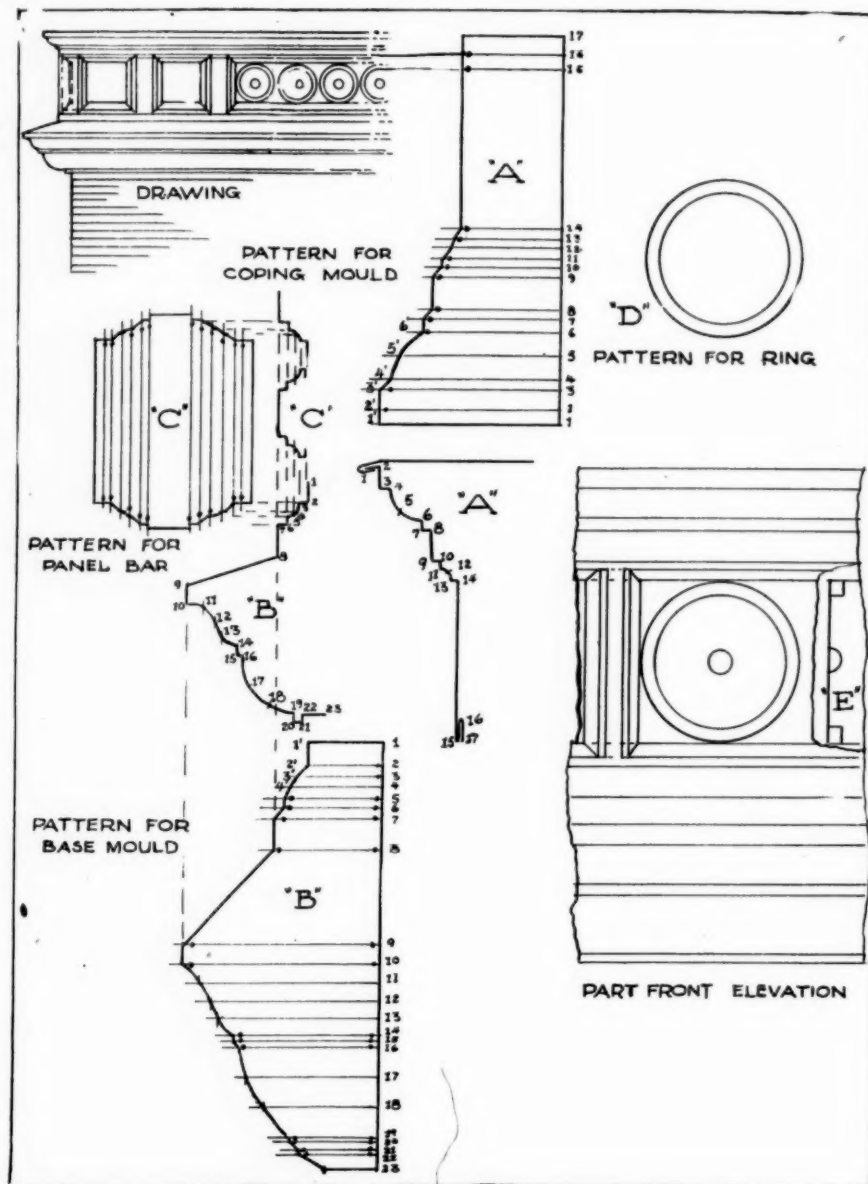
## PATTERNS FOR CORNICE WORK.

By O. W. KOTHE.

The matter of reading drawings is very important to the sheet metal workman especially the building work. Every line means so much that it is sometimes hard to decipher just what is the architect's intention. In the upper left hand corner is a sketch drawing of the upper cornice, panel work and coping mould, enlarged detail for the coping mould and panel is shown at "A". Observe how each bend is followed up in the same proportion only enlarged to suit full size. Now as all straight members can be treated as true lengths so all curved members must be divided in equal parts so as to better obtain their circumference and develop the curves to a degree of accuracy. The girth for this mould "A" is picked, stepping off each space separately on the line 1-17 above detail. When this is done stretchout lines are drawn and then from each point in the detail "A" lines are erected into stretchout cutting those of similar number as in points 1'-2'-3'-4'-5', etc. Join all these points with lines and you have the outside miter cut of pattern for coping mould.

At "B" we have detail for base mould and above detail for panel; also how the two join together. Observe the pattern for base mould is laid out the same as the coping mould. The stretchout must be stepped off in numerical order and each point followed up to intersect lines of similar number in stretchout as in point 1'-2'-3'-4', etc. This gives the pattern for square miter for base mould. At "C" we observe how the lines from the panel section "C" intersect the bed moulds for the coping and base mould. These form a butt miter better known as face miters. The pattern is developed by stepping the stretchout at right angles to elevation, then squaring over your point crossing those lines of similar number which gives the pattern as shown by "C". These panels should be placed equal distances apart working from centers as in working drawing. The round rings or ornaments are merely flat strips with sink strips soldered around the edges in section "E" of part front

elevation. The outer face of ring is shown by pattern "D" and is described equal to its diameters. Care must be taken in planting these rings in place so the wind will not blow them loose. This is a matter of honest workmanship which is elementary.



Patterns for Cornice Work.

## OHIO SHEET METAL MEN ARE ACTIVE IN WORK OF ORGANIZATION.

An attendance of ninety per cent of the members characterized the regular monthly meeting of the Columbus Local of the Sheet Metal Contractors' Association of Ohio which was held Monday evening, March 24, 1919, in Columbus, Ohio. Eight new candidates were admitted to the ranks of the organization. The custom has been established by the Local of abbreviating the parliamentary routine and using the time thus saved for the discussion of matters of im-



port to the Association. In this way, there is never any dullness at the meeting and the proceedings are not allowed to drag along until every one's patience is worn to a frazzle. Members like to come to the regular monthly reunions because the meetings are enlivened by timely topics and because there is an inspiring spirit of fraternity in the deliberations.

The Convention Committee of the Columbus Local, which is in charge of preparations for the dual convention of the National Association of Sheet Metal Contractors and the Sheet Metal Contractors' Association of Ohio to be held in Columbus, Ohio, June 9, 10, 11, 12, and 13, 1919, announces the completion of the arrangements for the entertainment of the delegates, ladies, and visitors to the annual meeting of the two associations. The committee does not wish to divulge the exact nature of the entertainment at this time but volunteers the information that it will be of a kind different from any that has ever been given in Columbus.

### SETS FORTH CLAIMS OF CHICAGO AS BASING POINT FOR STEEL.

Sheet metal contractors in the Chicago territory are urging—individually and through their associations—that an equal standing be given to Chicago with Pittsburgh in the matter of rolled steel prices. The Master Sheet Metal Contractors' Association of Wisconsin, for example, is lending its influence to the bringing about of this needed change in price level.

At the recent meeting of the Purchasing Agents' Association of Chicago, James E. MacMurray, chairman of the organization, discussed the matter as follows:

"The object for which the Western Association of Rolled Steel Consumers was formed was for the purpose of obtaining as low prices for the steel products in Chicago as are made in Pittsburgh.

"Unfortunately for Chicago, about 40 years ago a little, short, square Scotchman began making steel in Pittsburgh, when he ought to have begun making steel in Chicago. So far as I am able to ascertain this is the sole reason for the present practice of making Pittsburgh the steel basing point for prices on steel products. At the present time the only argument for the maintenance of such a thing as pricing all steel products f. o. b. Pittsburgh is that it has heretofore been done.

"This argument was rudely shattered by the price fixing committee of the war industries board, who, when they first fixed their prices on steel products included the great industries—plates, shapes, sheets and bars, f. o. b. both Pittsburgh and Chicago. This ruling stood through the war until in July, 1918, when no one was looking, Chicago was omitted from the price table. The tonnage included in these four great divisions of the rolled steel product is equal to 53 per cent of the total product of rolled steel.

"The manufacture of rolled steel has not moved west with quite as great rapidity as the mining of ore. Between the years 1914-1917, Pennsylvania, which includes all of the Pittsburgh district and all of the

great Bethlehem and eastern Pennsylvania district, increased its output of rolled steel 65 per cent. During the same three years the great iron producing state of Ohio increased its output of rolled steel products 75 per cent. Illinois, the first great western producer of rolled steel, increased its output 90 per cent and Indiana increased its output 100 per cent in three years. We believe these percentages will be kept up for industrial reasons, and if so, Chicago will be the center, not only on the production of iron ore, but of the finished product.

"In 1917, the total output of rolled steel and iron for the United States was 33,000,000 tons. Of this total output, Pennsylvania, which includes both the Pittsburgh district and all the Bethlehem and eastern Pennsylvania district produced 45 per cent. Ohio produced 18 per cent; Chicago district 20 per cent and the remaining 17 per cent was produced in Colorado, Alabama, New York and New England. This shows beyond question that Chicago is no small producer of finished and semifinished steel and that it is growing in its capacity and output at a very rapid rate; also that there are only two steel centers, namely, Pennsylvania and Ohio, the Pittsburgh district producing 63 per cent and the Chicago district 20 per cent. The other 10 per cent is scattered in 10 states. Again the great central market is here in Chicago.

"The controlling feature in the steel industry, like every other, is that of cost. Judge Gary is probably the best informed man on the details of steel production in the United States, if not in the world. He made a speech before the chamber of commerce of the city of Duluth about June 20, 1918, in which he said:

"Why did the Steel Corporation build a plant on a sandy desert along the southern shores of Lake Michigan? Because of a love for Indiana? Oh, no, none of us has any particular interest in that state. It was purely a business proposition. We would much rather have spent the money expended in Gary right here in Duluth. Our friends are here. But the proposition would have been a failure from a business point of view. There, fuel was easily obtainable, as were other things which are necessary to the making of steel. There was a market. For the manufacture of pig iron Duluth is well situated, perhaps nearly as well as almost any other city. But Birmingham can manufacture pig iron \$3.05 more cheaply per ton than can Duluth. As to steel products, Duluth is behind Gary by 38 per cent, Pittsburgh by 13 per cent."

"Now to sum up, we expect to have Chicago reestablished as a basing point for steel products for the following reasons: First, it is in the center of the great consuming territory; second, steel can be produced here as cheap, and it would seem considerably cheaper than in the Pittsburgh district, or anywhere else; third, it is the second largest producing district in the United States today, covering one-fifth of the total, and the only large producer of practically the entire line outside of the Pittsburgh district; fourth, we do not believe it is a fair practice for a steel company owning equally large and efficient mills in the Pittsburgh district and in the Chicago district, conceding that their costs of production are equal, to charge their customers who consume and manufacture in the Pittsburgh

district \$5.40 per ton less than they charge their consuming customers in the same lines of business in the Chicago district."

### URGES EFFORTS TO REESTABLISH USE OF SHEET METAL CORNICES.

At the annual meeting last week of the Sheet Metal Contractors' Association of Wisconsin, held in Milwaukee, Wisconsin, March 20, 1919 (a full account of which was given on pages 34 to 44, inclusive, in the March 22, 1919, issue of AMERICAN ARTISAN AND HARDWARE RECORD), Frank Romberger, President of the Milwaukee Local, gave a talk on the "Rehabilitation of the Sheet Metal Cornice, Coping and Metal Trim." The importance of the subject is so great that his address is herewith reprinted in full:

**Address on "The Rehabilitation of the Sheet Metal Cornice, Coping and Metal Trim," Delivered by Frank Romberger to the Annual Convention of the Master Sheet Metal Contractors' Association of Wisconsin at Milwaukee, Wisconsin, March 20, 1919.**

"The subject chosen for me to bring to your attention is the matter of a few items that come under the heading of Metal Trim. The words Metal Trim cover a wide field, and if I attempted to cover all items under that heading it would take a greater length of time than is allotted to me today. So I intend to take up the items of Cornices, Caps and Copings. Now it is a fact, as we all know, that the use of these articles of sheet metal is and has been gradually discontinued, and I believe it is our own fault. Later on will give my reasons for thinking so.

#### The Art of Trimming a Building.

"First of all, let us take up architecture. Architecture is the art and science of building—not only the knowing how to build substantially, but the taste or art of knowing how to trim, to break up a large flat surface of wall so as to make it pleasing to the eye. Now then let us take up the trimming end of it. That is where we are interested. Has the art of trimming a building been changed? Is that the reason there are less and less of metal cornices being used? I think not. In fact, we know it isn't the reason. The art of trimming a building is the same today as it was before sheet metal, as we know it today, came into use. Then, if there has been no change, and cornices, cap and copings are still being used, why is it that we are getting less and less of that nature of work? I think it is through our own carelessness, and again I'll say that later on I'll give my reason for saying so.

#### How Sheet Metal Replaced Stone Trimming.

"At first all buildings that were worth while were trimmed with stone. The structure had to be built accordingly. Heavy foundations and supporting walls were necessary to carry that enormous weight of trimming. That was and is more so today very expensive. Then came sheet metal, galvanized sheets and sheet copper. The cheapness of the material, the adaptability of it, the ease and low cost of working it, into any shape wanted, the light weight of it, and the durability of it were all arguments for it. It could be placed wherever stone could be placed, and at places where stone could not be placed and it took immediately.

The men that handled the material didn't have to advertise it. It advertised itself. To finish it off like stone they sanded it and it had the same effect in the building at less than half the cost—not counting the difference in the cost of supporting walls, which also was a big saving.

#### Damage Done by Cheap Workmanship.

"The average builder not only wanted a good looking building, but also wanted as big a return in his investment as possibly could be gotten. So when metal cornices could be made satisfactory, the architects immediately took advantage of them. Now the idea of keeping the cost of construction down is always in the architect's mind, so I suppose one of them, at one time or other, in trying to reduce costs, said to some painter, 'Why not sand off that cornice,' and having a good painter he got a good job. It looked good and it wore well; and then after all sanding was done away with, along came a painter that was in a hurry and he put three coats on in one, and another painter came along who made his job cheaper by using kerosene and whitening. The one peeled off and the other was shed off, and then the sheet metal men heard the first complaint about sheet metal cornices. The paint doesn't adhere. The same complaint is made today. That argument, as we all know, can be eliminated, and I think this Association ought to do a little propaganda work by using a little circular, sent to all architects and builders specifying how, when, and what materials are best when painting metal trim.

#### Publicity Gained Favor for Terra Cotta.

"But the peeling and washing off of paint is only a complaint that as I said can easily be remedied. But there is another reason, and the chief one, in my estimation, as to why we are losing out. A new article came on the market, or rather a new method of producing an old article—a material lighter than stone, a material easily worked into any shape, curve or moulding, at a great deal lower cost than stone, and a material that needed no paint, Terra Cotta. And the manufacturers of that material were big ones. They didn't simply put it on the market and leave it take its own course. They pushed it, advertised it, and kept pushing it until today it is Terra Cotta on all big buildings. And all this time, year after year, the sheet metal contractors were fast asleep, and let things drift, until today we are far out at sea; and it's going to take some mighty hard work to get back to shore. That is my reason for saying it's our own fault. We made no organized effort to hold a good thing, and we have almost lost it.

"Now, gentlemen, it's about time we woke up and make some united effort to hold what we have got and get back some of the business we have lost. Talking won't get it back. What is necessary is action—action along the lines of an advertising campaign to show the good points of metal trim, its sightliness, low cost, and durability. It holds the same superiority over Terra Cotta as it does over stone.

#### Organized Effort Is Needed.

"Let this Association lead the way. We have at the present time and I know we will have in the future, a most efficient set of officers, in both our state and national organization, and I firmly believe that,

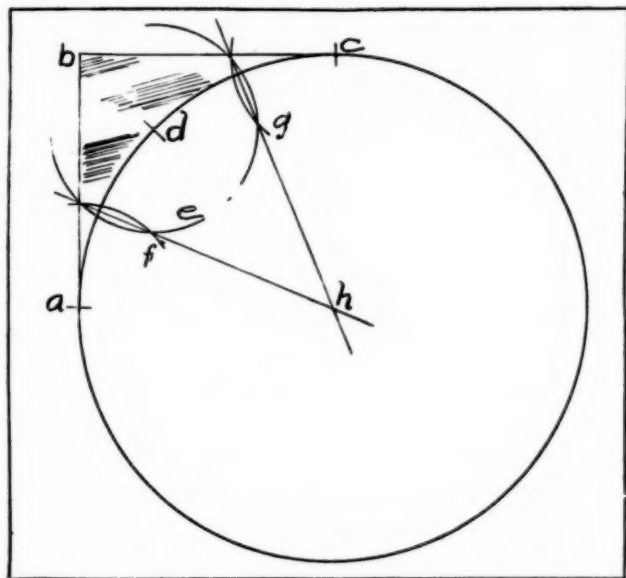


if the delegates present will but give them a hint of the willingness to cooperate with them, a world of good can be accomplished. This is the age of sheet metal, the least expensive of all trimming material. Lumber is growing scarcer and more expensive, and if we gentlemen here don't keep pushing and showing all metal products that come on the market and get our share of the profits in disposing of them it's our own fault. I wish all members, delegates or friends present would think this matter over and be ready to offer suggestions at the proper time as to how we could go about the furthering of the use of cornices, caps and copings of sheet metal, and of furthering the interests of sheet metal in general."

### ANSWERS GEOMETRICAL PROBLEM.

By O. W. KOTHE.

A subscriber wishes to know how to find the center of a circle. The best practice is to cut out a stay to suit the arc of tower or porch or whatever it is. Let this stay be at least three feet long on large work. In our drawing let this stay be indicated by a-b-c, with the arc cut in as a-d-c. Use any three points on this arc, equal or unequal spaces and using the center point -d- as center and any distance as radius, de-



Shows How to Find Center of Circle.

scribe the arc -e-. This radius should be somewhat larger than half the largest space. With the same radius, and using points -a- and -c- as centers, strike arcs -f- and -g- thereby crossing points in arc -e-.

Draw lines through these points of intersection, extending them until they cross in point -h-. This establishes the center. This method may be applied to any arc, large or small. The main point is to establish the three points on the arc for stay very accurately, the rest will work out.

### MOVES HIS SHOP TO LARGER QUARTERS.

The pressure of a steady stream of orders has compelled L. R. Hamman of Decatur, Illinois, to move his sheet metal and roofing works to a more commodious location. His shop is now at 347 East Main Street in that city where he has a decided advantage

in working facilities. The new quarters contain 5,800 square feet of floor space and afford room for his branching out into the automobile radiator repair business. He has installed an acetylene welding department; and is also taking up storage battery work. He wants to receive samples of automobile radiator cores with price lists and catalogs from firms that deal in supplies and accessories for the above-mentioned enterprises.

### HELPS HIM DO BETTER WORK.

TO AMERICAN ARTISAN AND HARDWARE RECORD: ..

I look forward to the coming of your journal as eagerly as I do for my weekly pay check, as each issue brings some information to make work better and to save time in doing it.

Yours truly,

JOHN F. WERNER,  
Sheet Metal Worker.

Stewartville, Minnesota, March 23, 1919.

### NOTES AND QUERIES.

#### Ottawa Hay Carrier.

From M. E. Southwick, Merville, Iowa.

Kindly advise who makes the Ottawa Hay Carrier.

Ans.—R. C. Jordan, Ottawa, Illinois.

#### Nickeloid.

From B. H. S. Hardware, Dysart, Iowa.

Will you please tell us where we can get nickeloid?

Ans.—Merchant and Evans Company, 347 North Sheldon Street, Chicago; American Nickeloid Manufacturing Company, Peru, Illinois; and National Sheet Metal Works, Peru, Illinois.

#### Puritan Oil Stove.

From Hildyard & Simpkin, Worthington, Minnesota.

We would like to know who makes the Puritan oil stove.

Ans.—Grinberg Brothers, 154 South Street, New York City.

#### Oil Burners.

From the American Heating & Supply Company, Quincy, Illinois.

Please inform us where we can secure oil burners to attach to warm air heaters.

Ans.—Doble-Detroit Steam Motor Company, Detroit, Michigan; Ozaukee Heater Company, Saukville, Wisconsin; Regal Burner Company, 1466 Addison Road, Cleveland, Ohio; and Vapor-Gas Burner Company, Columbus, Ohio.

#### Sorghum Mills.

From H. F. Dallman, Clinton, Wisconsin.

I would like to know where I can buy sorghum mills.

Ans.—Cook Cane Mill & Evaporator Company, 320 North Second Street, St. Louis, Missouri; and Julian M. Swoop, 913 Girod Street, New Orleans, Louisiana.

The DeForest Sheet and Tin Plate Company, Warrent, Ohio, has bought 75 acres at this place for plant additions.

The Meadville Metal Products Company, Ashtabula, Ohio, was recently incorporated with a capital of \$35,000 by Charles N. Corsby and R. R. Storey.

The Sheet Metal Machinery Company has been organized with offices in the American Trust Building, Cleveland, Ohio, to deal in new and used equipment for sheet metal and plate-working machinery.

## WEEKLY REPORT OF TRADE AND THE MARKETS

### STEEL TRADE LOOKS FOR AN EARLY REVIVAL OF GENERAL BUSINESS.

Hope of an immediate revival of business as a result of the Redfield stabilization plan, in the opinion of the leaders of the steel trade, now rests with the other basic industries of the country. The concessions in prices made at the conference in Washington between the steel men and the Industrial Board were greater than many in the trade believed would be made.

The trade was and is divided on the question of the extent of the cut, and its representatives went to Washington determined to resist any attempt at a "radical" cut. They met the Industrial Board in the open and were persuaded in the end to make concessions they did not want to make. The statement issued by Judge Gary at the conclusion of the conference summarized the situation fully, and indicated that the trade had accepted the arguments by the board in the general interest.

Hardships to individual producers are inevitable, but they are not expected to last long. The trade was fairly well satisfied with conditions as they were but the high cost producers were finding it increasingly difficult to continue. The result therefore is not essentially different from what it would have been so far as the high cost producers are concerned, if conditions had been allowed to develop along natural lines.

Steel men are convinced that if the other industries supplying basic materials will follow their lead a revival of business will be brought about much sooner than would have been the case under the hands-off policy advocated in most quarters. They are, therefore, waiting for the outcome of the conferences that are to follow.

Much depends on the future in the building trades. This phase of the work of the country has been most neglected during the past few years, and is in most need of stimulation. There is some hope that the reports that a big buying movement for the railroads is to follow will prove correct, but activity in other fields is relied upon to supply the demand for the heavy tonnages of steel.

The reductions in the prices for rails brought them to within \$5 a ton of the price at which approximately 700,000 tons were booked before the country entered the war. The trade has been at work on some of these old contracts and the fact accounts to some extent for the continued activity at the mills. Plates were also lowered to accord with the expectation of a "radical" cut, and there were no shapes and construction materials in general. The prices are probably intended to attract the buyers who have it in their power to initiate the return to industrial activity, which

in the opinion of the trade has already been unnecessarily delayed.

### STEEL.

Demand for structural steel for construction purposes in Western towns and cities continues a feature of the steel market. The statement attributed to Eastern builders that the cut was not big enough to attract building finds no echo in the West. There are no efforts under way there to force higher values for the retrieving of bad loans and the boom that is considered unavoidable is expected to rise in the West.

The demand for tubular goods is also active. The makers in some cases are reported to be storing their products against the demand that is expected to develop after the price adjustment has been fully assimilated. Buying for the moment is confined to oil needs. The oil companies are developing fields in the South and West as rapidly as they can get deliveries of pipe. There is also some buying by municipalities, but the bulk of the buying for this account is expected to be delayed until a little later. The pipe mills are working at an excellent rate of production.

### COPPER.

Business developments in the last week as a whole were favorable rather than otherwise for the copper industry; that is, from a domestic standpoint. The most interesting feature was the establishment of a lower scale of prices for finished steel products which, it is understood, is virtually a fixed schedule that is to prevail during the remainder of this year. It is confidently believed that in the near future the lower prices for steel products, although not as favorable as was anticipated for buyers, will bring many consumers into the market. Such buying will naturally be accompanied by larger orders for manufacturers, which will call for the buying of considerable tonnages of copper for various deliveries over the remainder of the year.

The more confident feeling noted a week ago was reflected in steady, if not firm, prices for both Electrolytic and Lake copper although the actual orders placed were relatively small, that is, as compared with normal pre-war business. In fact the total sales during March are now expected to aggregate about as much as they were in February.

Notwithstanding the large stocks of copper held abroad there were surprisingly numerous inquiries for small lots of Electrolytic copper for several days for export to England. Some fair sales were actually made but as the large producers would sell only for shipment to the interior or to eastern domestic consumers some curiosity was developed as to where small orders for, ranging from 100 tons to 200 tons, were placed. Few, if any, of the selling interests



would entertain bids under 15c per pound delivered. The sensational drop in sterling exchange later, acted as a virtual embargo against English importations as buyers could not pay the asking price here for English shipment. In the middle of the week exporters were bidding 14.87½ cents for Electrolytic, but could find little copper available even at 15 cents per pound, but later when exchange declined, all bids were withdrawn.

#### TIN.

London market is unchanged on no sales of prompt and 100 tons of futures. There are rumors that some drastic steps are to be taken by the Chief in Control of Tin, War Trade Board, to hasten the liquidation of the balance of supplies held by the United States Steel Products Company for account of the Government. One rumor is that the American tin producers are to be forbidden to sell any of their supplies until the Government stock is disposed of. The circular sent out to consumers by the Chairman of the Subcommittee on Tin is taken to be an effort to accelerate purchases by consumers of the Government stocks.

The movement in tin continues dull and the reserve held for the Government is only slowly going down, as consumers buy only in small tonnages at the fixed high price of 72½ cents. Tin in the open market at London could be bought around 52@53 cents a pound, and with the ending of tin control at this side of the Atlantic prices around this level are expected, which explains the unwillingness of consumers to take more than they absolutely need at the price of 72½ cents.

#### LEAD.

There is no improvement to be noted in the lead market, and there continues to be outside offerings at 4.90 cents St. Louis, or \$2 a ton below the leading interest's price. The dullness in lead is in marked contrast with the activity that has developed in the copper market, but trade authorities seem to take a hopeful view of the future, and are confidently expecting an improvement in the domestic demand.

The foreign trade outlook on the other hand does not give much promise owing to the existence of such large stocks, not only in Europe but in Australia, awaiting shipment.

#### SOLDER.

An increase of one cent per pound for all three grades of solder has occurred in the Chicago market, the present prices being as follows: Warranted 50-50, per pound, 40.5 cents; Commercial, 45-55, per pound, 37.2 cents; Plumbers', per pound, 33.9 cents.

#### SPELTER.

The amount of buying since the cut in steel prices has been only moderate in volume so far, and may be viewed perhaps as reflecting some disappointment in regard to the outcome of the conference. Sellers for the earlier deliveries, March and April, have not advanced their prices to any extent but there is less disposition to name prices beyond those months. Ore prices are \$2 per ton lower, not enough of a reduction

to afford much relief to the producers of spelter, and unless further decline in their raw material follows, there will be a radical closing of works next month.

#### SHEETS.

Orders received by the sheet mills have been very heavy, the heaviest for a long time. Most of the orders bear earmarks of having been prepared some time ago, but held until they could be filled under the reduced prices that were expected. It does not matter to the buyer whether the price as developed by the Washington conference was higher or lower than he expected, the vital fact with the buyer being that it is the price. The circumstances of the price adjustment were such that the buyer does not expect any price cutting, at least in the near future.

#### TIN PLATE.

As a rule there is a comfortable spread between the new prices for sheet bars and for tin plate, and the situation will be still more favorable to the tin plate mills when they are able to use pig tin bought at open market prices. At present they are using the tin allotted to them at the Government figure of 72.50 cents. When the Government has worked off all its tin there will be an open market, and presumably lower prices.

Some tin plate consumers are surprised that no greater reduction was made on so finely finished a steel product as tin plate than was made on the heavy rolled products, like bars, shapes and plates. All these products were reduced precisely \$7 per net ton.

Terne plate prices, which do not always move precisely in accordance with the basis price of coke tin plate, have in this instance maintained their relation, being reduced 35 cents per base box or 70 cents per case, 20x28, from the prices in effect for some time past.

#### OLD METALS.

Wholesale quotations in the Chicago district which may be considered nominal, are as follows: Old steel axles, \$28.00 to \$30.00; old iron axles, \$28.00 to \$30.00; steel springs, \$17.00 to \$17.50; No. 1 wrought iron, \$15.50 to \$16.00; No. 1 cast, \$21.00 to \$21.50, all net tons. Prices for non-ferrous metals are as follows, per pound: Light copper, 10¾ cents; light brass, 6¼ cents; lead, 3½ cents; zinc, 3¾ cents; cast aluminum, 17½ cents.

#### PIG IRON.

While the Washington price conferences are out of the way, the iron market is still waiting for further developments. The cut of \$4.25 per ton is generally considered as drastic enough to stimulate some buying and it would be considered a great relief if the Government's agencies would place their needs, which would undoubtedly be followed by fair buying on account of the regular consumers. At present dullness still prevails in the pig iron markets of the various districts, and barring a few scattered tonnages for immediate use, principally foundry iron, nothing is changing hands.

# Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

| METALS.                             |  | LEAD.                              |  | AUGERS                                  |  | BEATERS.                              |  |
|-------------------------------------|--|------------------------------------|--|---|--|---------------------------------------|--|
| PIG IRON.                           |  | American Pig.....\$5 50            |  | Boring Machine.....60%                  |  | Carpet. Per doz.                      |  |
| Basic.....\$34 40                   |  | Sheet.                             |  | Irwin's.....25%                         |  | No. 7 Tinned Spring Wire...\$1 10     |  |
| Northern Fdy., No. 2....34 00       |  | Full coils.....per 100 lbs. \$8 50 |  | Carpenter's Nut.....50%                 |  | No. 8 Soring Wire coppered...1 50     |  |
| Southern Fdy., No. 2....40 25       |  | Cut coils.....per 100 lbs. 8 75    |  | Hollow.                                 |  | No. 9 Preston.....1 75                |  |
| Lake Sup. Charcoal....38 70-39 00   |  | TIN.                               |  | Bonney's.....per doz. 30 00             |  | Egg. Per doz.                         |  |
| Malleable.....34 50                 |  | Pig tin.....76½c                   |  | Stearns, No. 3.....60 00                |  | No. 50 Imp. Dover.....\$1 10          |  |
| FIRST QUALITY BRIGHT                |  | Bar tin.....77½c                   |  | Post Hole.                              |  | No. 102 " " tinned...1 35             |  |
| TIN PLATES.                         |  | HARDWARE.                          |  | Iwan's Post Hole and Well....25%        |  | No. 150 " " hotel...2 10              |  |
| Per box                             |  | ADZES.                             |  | Vaughan's, 4 to 9-in...per doz.\$13 00  |  | No. 10 Heavy hotel tinned..2 10       |  |
| IC 14x20.....112 sheets             |  | Carpenters'.                       |  | Ship.                                   |  | No. 13 " " " 3 30                     |  |
| IX 14x20.....14 95                  |  | Plumbs.....Net                     |  | Ford's, with or without screw, Net list |  | No. 15 " " " 3 60                     |  |
| IXX 14x20.....16 60                 |  | Coopers'.                          |  | Brad.                                   |  | No. 18 " " " 4 50                     |  |
| IXXX 14x20.....17 85                |  | Barton's.....Net                   |  | No. 3 Handled.....per doz. \$0 65       |  | Hand. 8 9 10 12                       |  |
| IXXXX 14x20.....19 15               |  | White's.....Net                    |  | No. 1050 Handled.....1 40               |  | Per doz.\$11 50 13 00 14 75 18 00     |  |
| IC 20x28.....26 70                  |  | Railroad.                          |  | Shouldered, assorted 1 to 4,            |  | Moulders'.                            |  |
| IX 20x28.....29 90                  |  | Plumbs.....Net                     |  | Patent asst'd, 1 to 4..                 |  | 12-inch.....Per doz. 20 00            |  |
| IXX 20x28.....33 20                 |  | AMMUNITION.                        |  | Harness.                                |  | BELLS.                                |  |
| IXXX 20x28.....35 70                |  | Caps. Percussion—per 1,000.        |  | Common.....1 05                         |  | Call.                                 |  |
| IXXXX 20x28.....38 30               |  | F. L., Waterproof, 1-10s...20&2½%  |  | Patent.....1 00                         |  | 3-inch Nickered Rotary Bell,          |  |
| COKE PLATES.                        |  | G. D.....20&2½%                    |  | Peg.                                    |  | Bronzed base.....per doz. \$5 50      |  |
| Cokes, 180 lbs.....20x28 \$16 70    |  | Musket.....20&2½%                  |  | Shouldered.....1 60                     |  | Cow.                                  |  |
| Cokes, 200 lbs.....20x28 17 00      |  | Shells, Loaded.                    |  | Patented.....75                         |  | Kentucky.....30%                      |  |
| Cokes, 214 lbs.....IC 20x28 17 60   |  | Loaded with Black Powder. 20&2½%   |  | Scratch.                                |  | Door. Per doz.                        |  |
| Cokes, 270 lbs.....IX 20x28 20 00   |  | Loaded with Smokeless Powder,      |  | No. IS, socket hand'ld. per doz. 2 50   |  | New Departure Automatic...\$ 7 50     |  |
| BLUE ANNEALED SHEETS.               |  | medium grades.....20&2½%           |  | List, less.....35-40%                   |  | Rotary.                               |  |
| No. 10.....per 100 lbs. \$4 57      |  | Loaded with Smokeless Powder,      |  | No. 7 Stanley.....2 25                  |  | 3-in. Old Copper Bell.....6 00        |  |
| No. 12.....per 100 lbs. 4 62        |  | high grade.....20&2½%              |  | AXES.                                   |  | 3-in. Old Copper Bell, fancy. 8 00    |  |
| No. 14.....per 100 lbs. 4 67        |  | Winchester.                        |  | Boys' Handled.                          |  | 3-in. Nickered Steel Bell...6 00      |  |
| No. 16.....per 100 lbs. 4 77        |  | Smokeless Repeater Grade. 20&2½%   |  | Niagara.....12 50                       |  | 3½-in. Nickered Steel Bell...6 50     |  |
| ONE PASS COLD ROLLED BLACK.         |  | Smokeless Leader Grade...20&2½%    |  | Broad.                                  |  | Hand.                                 |  |
| No. 18-20.....per 100 lbs. \$5 17   |  | Black Powder.....20&2½%            |  | Plumbs, West, Pat.....List              |  | Hand Bells, polished.....15%          |  |
| No. 22-24.....per 100 lbs. 5 22     |  | U. M. C.                           |  | Can. Pat.....\$69 00                    |  | White Metal.....15%                   |  |
| No. 26.....per 100 lbs. 5 27        |  | Nitro Club.....20&2½%              |  | Fire.en's (handled),                    |  | Nickel Plated.....10%                 |  |
| No. 27.....per 100 lbs. 5 32        |  | Arrow.....20&2½%                   |  | per doz. 21 00                          |  | Swiss.....15%                         |  |
| No. 28.....per 100 lbs. 5 37        |  | New Club.....20&2½%                |  | Single Bitted (without handles).        |  | Silver Chime.....10%                  |  |
| No. 29.....per 100 lbs. 5 42        |  | Gun Wads—per 1000.                 |  | Warren Silver Steel..on application     |  | Miscellaneous.                        |  |
| GALVANIZED.                         |  | Winchester 7-8 gauge.....\$2 25    |  | Warren Blue Finished..                  |  | Church and School, steel alloys...30% |  |
| No. 16.....per 100 lbs. \$5 97      |  | " 9-10 gauge.....1 94              |  | Matchless Red Pole.....\$11 50          |  | Farm, lbs...40 50 75 100              |  |
| No. 18-20.....per 100 lbs. 6 12     |  | " 11-28 gauge.....1 63             |  | BALANCES, SPRING.                       |  | Each.....\$3 00 3 75 5 50 7 25        |  |
| No. 22-24.....per 100 lbs. 6 7      |  | Powder. Each                       |  | BARS, CROW.                             |  | BEVELS, TEE.                          |  |
| No. 26.....per 100 lbs. 6 42        |  | DuPont's Sporting, kegs...\$11 25  |  | Pinch or Wedge Point, per cwt....\$8 50 |  | Stanley's rosewood handle, new        |  |
| No. 27.....per 100 lbs. 6 57        |  | " " 4 kegs...5 90                  |  | BASKETS.                                |  | list.....Nets                         |  |
| No. 28.....per 100 lbs. 6 72        |  | " " 4 kegs...3 10                  |  | Clothes.                                |  | Stanley's iron handle.....Nets        |  |
| No. 30.....per 100 lbs. 7 22        |  | DuPont's Canisters, 1-lb...56      |  | Small Willow.....per doz. 15 00         |  | BINDING CLOTH.                        |  |
| POLISHED SHEET STEEL.               |  | " " 4 lb...22                      |  | Medium Willow.....17 00                 |  | Zincd.....55%                         |  |
| No. 24.....per 100 lbs. \$7 82      |  | " " 4 lb...22                      |  | Large Willow.....20 00                  |  | Brass.....40%                         |  |
| No. 26.....per 100 lbs. 7 87        |  | " " 4 lb...22                      |  | GALVANIZED STEEL.                       |  | Brass, plated.....60%                 |  |
| No. 27.....per 100 lbs. 7 92        |  | " " 4 lb...22                      |  | No. 24.....per 100 lbs. \$7 82          |  | BITS.                                 |  |
| No. 28.....per 100 lbs. 8 02        |  | " " 4 lb...22                      |  | No. 26.....per 100 lbs. 7 87            |  | Jennings Pattern.....20%              |  |
| SMOOTH SHEET STEEL.                 |  | " " 4 lb...22                      |  | No. 27.....per 100 lbs. 7 92            |  | Ford Car.....List plus 5%             |  |
| Per 100 lbs.                        |  | " " 4 lb...22                      |  | No. 28.....per 100 lbs. 8 02            |  | Ford's Ship.....                      |  |
| Wood's Smooth No. 20.....\$7 27     |  | " " 4 lb...22                      |  | PATENT PLANISHED SHEET                  |  | Irwin.....35%                         |  |
| " " No. 22-24.....7 32              |  | " " 4 lb...22                      |  | IRON.                                   |  | Russell Jennings.....15%              |  |
| " " No. 25-26.....7 37              |  | " " 4 lb...22                      |  | Patent Planished Sheet Iron,            |  | Clark's Expansive.....33½%            |  |
| " " No. 27.....7 42                 |  | " " 4 lb...22                      |  | 100 lbs., base No. 28.....\$11 55       |  | Steer's " Small list, \$22 00...5%    |  |
| " " No. 28.....7 52                 |  | " " 4 lb...22                      |  | BAR SOLDER.                             |  | " " Large " \$26 00...5%              |  |
| PATENT PLANISHED SHEET              |  | " " 4 lb...22                      |  | Warranted, 50-50.....per lb. 40.50      |  | Irwin Car.....35%                     |  |
| IRON.                               |  | " " 4 lb...22                      |  | Commercial, 45-55.....37.20             |  | Ford's Ship Auger pattern             |  |
| Patent Planished Sheet Iron,        |  | " " 4 lb...22                      |  | Plumbers'.....33.90                     |  | Car.....List plus 5%                  |  |
| 100 lbs., base No. 28.....\$11 55   |  | " " 4 lb...22                      |  | SPELTER.                                |  | Center.....10%                        |  |
| BAR SOLDER.                         |  | " " 4 lb...22                      |  | In slabs.....7c                         |  | Countersink.                          |  |
| Warranted, 50-50.....per lb. 40.50  |  | " " 4 lb...22                      |  | SHEET ZINC.                             |  | No. 18 Wheeler's....per doz. \$2 25   |  |
| Commercial, 45-55.....37.20         |  | " " 4 lb...22                      |  | Cask lots.....13c                       |  | No. 20.....3 00                       |  |
| Plumbers'.....33.90                 |  | " " 4 lb...22                      |  | Less than cask lots.....13½ to 13¾c     |  | American Snailhead..1 75              |  |
| SPELTER.                            |  | " " 4 lb...22                      |  | COPPER.                                 |  | " Rose " 2 00                         |  |
| In slabs.....7c                     |  | " " 4 lb...22                      |  | Copper Sheet, base.....22½c             |  | " Flat " 1 40                         |  |
| SHEET ZINC.                         |  | " " 4 lb...22                      |  | ANVILS.                                 |  | Mahew's Flat.....1 60                 |  |
| Cask lots.....13c                   |  | " " 4 lb...22                      |  | Trenton, 70 to 80 lbs....9½c per lb.    |  | " Snail.....1 90                      |  |
| Less than cask lots.....13½ to 13¾c |  | " " 4 lb...22                      |  | Trenton, 81 to 150 lbs....9½c per lb.   |  | Dowel.                                |  |
| COPPER.                             |  | " " 4 lb...22                      |  | ASBESTOS.                               |  | Russell Jennings.....15%              |  |
| Copper Sheet, base.....22½c         |  | " " 4 lb...22                      |  | Board and Paper, upto 1/16" 17c per lb. |  | Gimlet.                               |  |
|                                     |  | " " 4 lb...22                      |  | 1 thicker.....18c per lb.               |  | Standard Double Cut.                  |  |
|                                     |  |                                    |  |   |  | Dox. \$1 10—\$1 60                    |  |
|                                     |  |                                    |  |   |  | Countersink.....Dox. 1 80             |  |
|                                     |  |                                    |  |   |  | Reamer.                               |  |
|                                     |  |                                    |  |   |  | Standard Square.....Dox. 2 50         |  |
|                                     |  |                                    |  |   |  | American Octagon...2 50               |  |
|                                     |  |                                    |  |   |  | Screw Driver.                         |  |
|                                     |  |                                    |  |   |  | No. 1 Common.....1 40                 |  |
|                                     |  |                                    |  |   |  | No. 26 Stanley.....1 75               |  |



|  |  |  |  |   |  |   |  |
|--|--|--|--|---|--|---|--|
| BLACKING, STOVE. (See Polish)            |  | Well.                                    |  | Picture Chains.                         |  | Saw Filers.                               |  |
| BLADES, SAW.                             |  | Oak, Wrought Iron Riveted                |  | Light Brass, 3 ft. .... per doz. \$1 25 |  | Wentworth's, No. 1, \$12.50; No. 2,       |  |
| Butchers'.                               |  | Top Ears. .... per doz. \$8 00           |  | Heavy Brass, 3 ft. .... " 1 75          |  | \$18.25. No. 3, \$16.25.                  |  |
| Standard, 1 & 1 1/2-in. .... Nets        |  | BURRS, RIVETING.                         |  |   |  |   |  |
| Clock Spring. .... "                     |  | Copper Burrs only. .... 25% above list   |  |   |  |   |  |
| Star. .... "                             |  | Tinners' Iron Burrs only. .... 30%       |  |   |  |   |  |
| Hack.                                    |  | BUTTS.                                   |  | Safety Chain.                           |  | CLAWS, TACK.                              |  |
| Atkins. .... 5%                          |  | Cast Iron. .... 7 1/2%                   |  | Brass. .... 5%                          |  | Wood hdl. No. 10. .... per doz. \$0 95    |  |
| Star. .... Nets                          |  | Wrought Brass (New List). .... Plus 5%   |  |   |  | Forged steel, wood hdl. .... \$1 75       |  |
| Wood.                                    |  | Wrought Steel, Bright. .... 40%          |  |   |  | Solid steel. .... " 2 40                  |  |
| Disston                                  |  | Wrought Steel, Japanned. .... Net prices |  |   |  | Giant. .... " 50                          |  |
| Nos. .... 6 66 26                        |  |  |  |   |  |   |  |
| \$8 00 \$8 50 \$8 00                     |  | CALIPERS.                                |  | Sash Chain. (Morton's)                  |  | CLEANERS.                                 |  |
| Atkins                                   |  | Double. .... Nets                        |  | Steel, per 100 ft.                      |  | Drain.                                    |  |
| Nos. .... 2 14 18                        |  | Inside and Outside. .... "               |  | 0. .... \$2 50                          |  | Iwan's Adjustable. .... 40%               |  |
| \$3 85 \$6 50 \$4 75                     |  | Wing. .... "                             |  | 2. .... 3 10                            |  | Iwan's Stationary. .... 30%               |  |
| BLOCKS.                                  |  |  |  | 1. .... 3 60                            |  | Pot.                                      |  |
| Wooden. .... Plus 10%                    |  | CALKS.                                   |  |   |  | Wire. .... per doz. \$0 75                |  |
| Tackle.                                  |  | Logger's Boot.                           |  | Champion Metal.                         |  | Side-Walk.                                |  |
| Iron Strapped. .... Plus 10%             |  | (Lufkin R. Co.'s), per M. .... \$7 00    |  | 0R. .... 5 40                           |  | Steel. .... per doz., Net prices          |  |
| BOARDS.                                  |  | Toe.                                     |  | 2R. .... 5 60                           |  |   |  |
| Wabash Crystal. .... Net Prices          |  | Blunt and medium, 1 prong,               |  | 1R. .... 7 75                           |  | CLEAVERS.                                 |  |
| Wabash Oriental. .... "                  |  | per 100 lbs. .... \$6 00                 |  |   |  | Family.                                   |  |
| Wabash Mosaic. .... "                    |  | Sharp, 1 prong, per 100 lbs. .... 6 50   |  |   |  | Beatty's, inch 7 8 9 10                   |  |
| Wabash Delft Enameled. .... "            |  |  |  |   |  | Per doz. .... \$27 00 29 00 33 00 36 00   |  |
| Wabash Art Inlay. .... "                 |  |  |  |   |  |   |  |
| Wash.                                    |  | CANS.                                    |  | Champion Metal—Extra Heavy.             |  | CLEAVISES.                                |  |
| No. 760, Banner Globe, (single)          |  | Elgin.                                   |  | 1H. .... 9 50                           |  | Malleable. .... 10c lb.                   |  |
| per doz. .... \$5 25                     |  | Gals. .... 5 8 10                        |  |   |  | CLIPPERS.                                 |  |
| No. 652, Banner Globe, (single)          |  | Each. .... \$4 00 \$5 15 \$5 15          |  |   |  | Bolt. .... \$2 25 & 6 00                  |  |
| per doz. .... 6 75                       |  | Iowa Pattern.                            |  | Cable Sash Chains.                      |  | CLIPS.                                    |  |
| No. 801, Brass King. .... 8 25           |  | Gals. .... 5 8 10                        |  | Steel. .... List Net Plus 15%           |  | Axe. .... .65 & 5%                        |  |
| No. 860, Single—Plain Pump 6 25          |  | Each. .... \$4 00 \$5 15 \$5 15          |  |   |  | Damper.                                   |  |
| BOBS, PLUMB.                             |  | CAN OPENERS.                             |  | CHALK, CARPENTERS'                      |  | Standard. .... per doz. 70c               |  |
| Carpenters'.                             |  | See Openers.                             |  | Blue. .... per gro., \$1 50             |  | Troy. .... " 38c                          |  |
| No. 2, iron. .... per doz. \$1 15        |  | CAPS, GUN.                               |  | Red. .... " 1 50                        |  | Hame. .... " 50c                          |  |
| No. 00, " .... 1 90                      |  | See Ammunition.                          |  | White. .... " 1 45                      |  | CLOTH.                                    |  |
| No. 0, " .... 3 85                       |  | CARPET STRETCHERS.                       |  | Common White School                     |  | Emery.                                    |  |
| No. 3, lead. .... 4 35                   |  | See Stretchers.                          |  | Crayon. .... " 25c                      |  | Star. .... New Prices                     |  |
| No. 4, " .... 6 00                       |  | CARRIERS.                                |  | CHARCOAL.                               |  | B. & A. .... " "                          |  |
| No. N30, nickel plat'd. .... 2 40        |  | Hay.                                     |  | In bags. .... per bag \$1.70            |  | Hardware Wire—                            |  |
| No. 5, brass. .... 5 25                  |  | Diamond, Regular. .... each, Nets        |  | CHECKS, DOOR.                           |  | Full rolls (100 ft.)                      |  |
| BOLTS.                                   |  | Diamond, Sling. .... " "                 |  | Blount. .... Net list                   |  | 12 Mesh, galvanized. .... " application   |  |
| Carriage, Machine, etc.                  |  | CARTRIDGES.                              |  | Corbin. .... "                          |  | 14 " " " " " "                            |  |
| Carriage, 1x6 and sizes smaller.         |  | See Ammunition.                          |  | CHIMNEY TOPS.                           |  | 16 " " " " " "                            |  |
| and shorter. .... 40%                    |  | CASTERS.                                 |  | Iwan's Volcano. .... 40%                |  | Screen Wire. Prices on application.       |  |
| Carriage, sizes larger and longer        |  | Standard—Ball Bearing. .... 50 & 10%     |  | CHISELS.                                |  | 12 mesh, painted, per 100 sq. ft. ....    |  |
| than 1x6. .... 20 & 5%                   |  | Bed. .... 55%                            |  | Box.                                    |  | COLLARS, STOVE PIPE.                      |  |
| Machine, 1x4 and sizes smaller           |  | Common Plate.                            |  | Inches. .... 12 14                      |  | Lacquered.                                |  |
| and shorter. .... 40 & 10%               |  | Brass Wheel. .... 15%                    |  | Round, per doz. .... \$5 25 5 75        |  | Inches 5 6 7                              |  |
| Machine, sizes larger and long-          |  | Iron and porcelain wheels, new           |  | Flat, per doz. .... 7 25 8 25           |  | Fancy pattern,                            |  |
| er than 1x4. .... 25 & 5%                |  | list. .... 50%                           |  | Cold.                                   |  | per doz. .... 80c 85c \$1 15              |  |
| Stove. .... 60 & 10%                     |  | Philadelphia Plate, new list. .... 50%   |  | Good quality, 1/2 in. and               |  | COMPASSES.                                |  |
| Tire. .... 40%                           |  | Martin's. .... 40%                       |  | larger. .... per lb. 28c                |  | Carpenters' .... 15%                      |  |
| Mortise, Door.                           |  | CATCHERS, GRASS.                         |  | Smaller size, per doz. .... Nets        |  | COPPER—See Metals.                        |  |
| Gem, iron. .... 5%                       |  | No. 160S, per doz. .... \$12 25          |  | Socket, Firmer.                         |  | COPPERS—Soldering.                        |  |
| Gem, bronze plated. .... 5%              |  | No. 165S, " .... 14 01                   |  | Ohio. .... Price on Application         |  | 3 lb. and heavier. .... per lb. 55c       |  |
| Barrel.                                  |  | CEMENT, FURNACE.                         |  | Socket, Framing.                        |  | 2 1/2 lb. .... " 56c                      |  |
| Cast. .... Nets                          |  | American Seal, 5 lb. cans, net           |  | Ohio. .... Price on Application         |  | 2 lb. .... " 57c                          |  |
| Wrought. .... "                          |  | " " 10 lb. cans, " 90                    |  | Tanged, Firmer.—Barton's.               |  | 1 1/2 lb. .... " 58c                      |  |
| Wrought, bronzed. .... "                 |  | " " 25 lb. cans, " 1 87                  |  | With handles. .... Net list             |  | 1 lb. .... " 61c                          |  |
| Flush.                                   |  | Pecora, 5 lb. cans. .... 45              |  | Choppers, See Cutters, Meat.            |  | CORD.                                     |  |
| Wrought. .... "                          |  | " 10 lb. cans. .... 90                   |  | CHUCKS, DRILL.                          |  | Picture.                                  |  |
| Wrought, heavy. .... "                   |  | " 25 lb. cans. .... 1 87                 |  | Goodell's, for Goodell's Screw          |  | White Wire. .... 70 & 10%                 |  |
| Square.                                  |  | CHAIN AND CHAINS.                        |  | Drivers. .... List less 35-40%          |  | Sash.                                     |  |
| Wrought. .... "                          |  | Breast Chains.                           |  | Yankee, for Yankee Screw                |  | Sampson Spot, No. 7, per doz. \$21.25     |  |
| BORERS.                                  |  | Doubleslack. .... doz. pairs, \$8 50     |  | Drivers. .... 6 00                      |  | Revenoc No. 7. .... per doz. \$14.40      |  |
| Angular.                                 |  | With Covert Snaps. .... 5 80             |  | CHURNS.                                 |  | CORKSCREWS.                               |  |
| Miller's Falls. .... per doz. \$23 00    |  | With Slide. .... 5 00                    |  | Anti-Bent Wood,                         |  | Walker's. .... 30%                        |  |
| Sill borers, No. 51. .... 34 00          |  | Without Slide. .... 4 60                 |  | Gal. .... 5 7 10                        |  | Williamson's Regular. .... 35 & 11%       |  |
| " 52. .... 39 50                         |  | Cable Coil Chains                        |  | Each. .... \$3 90 4 60 4 85             |  | Williamson's Forged Worm. .... 40%        |  |
| Bug.                                     |  | Inch. .... 1 1 1 1/2                     |  | Belle, Barrel. .... .65 & 7 1/2%        |  | COTTERS, SPRING.                          |  |
| Enterprise Mfg. Co.'s No. 1. .... 10%    |  | Per 100 lbs. .... 7 75 7 50 7 50         |  | Common Dash,                            |  | All sizes (new list) .... 80%             |  |
| " No. 2. .... 10%                        |  |  |  | Gal. .... 5 7                           |  | COUPLINGS, HOSE.                          |  |
| BOXES.                                   |  |  |  | Per doz. .... 17 00 19 00               |  | Brass. .... per doz. \$2 25               |  |
| Mail, No. .... 2 4 10                    |  |  |  | CLAMPS.                                 |  | COVERS, WAGON—See Tents.                  |  |
| Per doz. .... \$18 00 23 00 29 00        |  |  |  | Adjustable.                             |  | CRADLES, GRAIN.                           |  |
| Mitre.                                   |  |  |  | Martin's. .... 30%                      |  | Morgan's Grapevine. .... per doz. \$45 00 |  |
| Goodell-Pratt .... 35-40%                |  |  |  | Carpenters'.                            |  |   |  |
| Stanley's. .... Net Prices               |  |  |  | Steel Bar. .... 10%                     |  |   |  |
| BRACES.                                  |  |  |  | Hose.                                   |  |   |  |
| Fray's Genuine Spofford's. .... 20 & 10% |  |  |  | Sherman's, brass, 1/2-in., per doz. 48c |  |   |  |
| " No. 08. .... \$7 50                    |  |  |  | Double, brass, 1/2-in. .... 1 20        |  |   |  |
| " No. 010. .... 8 00                     |  |  |  |   |  |   |  |
| BRACKETS.                                |  |  |  |   |  |   |  |
| Hay Rack.                                |  |  |  |   |  |   |  |
| Wenzelmann's No. 1, per doz.             |  |  |  |   |  |   |  |
| sets. .... \$18 00                       |  |  |  |   |  |   |  |
| Wenzelmann's No. 2, per doz.             |  |  |  |   |  |   |  |
| sets. .... 19 20                         |  |  |  |   |  |   |  |
| Shelf.                                   |  |  |  |   |  |   |  |
| Wrought Steel .... 40%                   |  |  |  |   |  |   |  |

|   |   |  |  |
|---|---|--|--|
| <b>CRAYONS—See Chalk.</b><br><b>CROWBARS.</b><br>Pinch or Wedge Point.....per lb. 8c  | <b>ELBOWS—Conductor Pipe.</b><br>Galvanized Steel, Tin and Terne,<br>Round Corrugated.  | <b>Wood Pails.</b><br>Frazer's, 15 lb. \$1.00; 25 lb. \$1.50 each<br>Hub Lightning, 15 lb. 90c; 25 lb.<br>\$1.21 each.   | <b>HANGERS.</b><br><b>Barn Door.</b><br>U. S. Rolled Bearing.....12½%<br>Matchless.....12½%<br>Warehouse Tandem, No. 44.....33½%   |
| <b>CUTTERS</b><br><b>Glass.</b><br>Woodward.....40%<br><b>Meat.</b><br>Enterprise—Nos. 5 10 12<br>Each \$2 50 \$4 25 \$3 75<br>" Nos. 22 32<br>" 6 50 8 50  | Size. Doz.<br>2-inch.....\$ 3 60<br>3-inch.....4 32<br>4-inch.....7 20<br>5-inch.....15 00<br>6-inch.....18 00<br>Subject to 60% discount.  | <b>Tin Cans.</b><br>Frazer's<br>1½ lb. per doz.....\$1 75<br>3 lb. per doz.....3 25  | <b>Conductor P.</b><br>Iwan's Perfection.....50%<br><b>Eave Trough.</b><br>Imperial.....Net list<br>Wire.....List plus 5%  |
| <b>Pipe.</b><br>Saunders', No. 1 2 3<br>Each \$1 85 2 75 6 75<br><b>Slaw and Kraut.</b> Per doz.<br>4-knife Kraut.....\$20 00-55 00<br>3-knife Kraut, 8x27 in. 13 00-18 00<br>1-knife Slaw.....2 50<br>2-knife Slaw.....3 00<br>Washer.....11 00  | <b>EMERY, TURKISH.</b><br>5-lb<br>Size.....pkgs. ½ kegs. kegs.<br>Flour.....15c 8c 7½c  | <b>GRINDSTONES.</b><br><b>Family.</b><br>Inches.. 7 8 10 12<br>Per doz..20 50 21 75 26 25 30 50<br><b>Loose.</b><br>Per ton.....Price on application<br><b>Mounted.</b><br>Ball Bearing.....1 2 3<br>Each.....\$4 75 5 00 5 25   | <b>Garage Door.</b><br>Right Angle.....50&10%<br>Sliding Folding.....50%<br>Receding.....50%<br><b>Parlor Door.</b><br>Acme.....per set, \$3 75<br>Ives' Improved....." 3 40<br>Lane's Standard....." 3 50<br>Lane's New Model....." 3 10<br>Le Roy Noiseless.....40&10%<br>Richards.....25%<br>Advance.....40&10% |
| <b>DAMPERS, STOVE PIPE.</b><br><b>Ideal</b><br>3".....\$1 00<br>4".....1 05<br>5".....1 15<br>6".....1 25<br>7".....2 20<br>8".....3 75<br>10".....6 00   | <b>EYES.</b><br><b>Bright Wire Screw—See Ooods, B. W.</b><br><b>Drifting Pick</b> .....60, 10&5%<br><b>Hooks and Eyes—</b><br>Brass, 1½" No. 60..per gross, \$3 50<br>Iron " " 50.. " 1 60  | <b>GUN WADS.</b><br>(See Ammunition).<br><b>GUNS.</b><br>Iver Johnson Champion Single<br>Barrel Shot Guns.....Net Prices<br>Double Barrel, Hammerless. "   | <b>HASPS.</b><br>Hinge, Wrought.....Add 50% to list.<br>With Staples—See Staples.<br><b>HATCHETS.</b><br>Crescent.....50%<br>Cast Claw.....per doz. \$1 50@1 85<br>Cast Shingling....." 1 50@1 85<br>Germantown.....7½%  |
| <b>DIES AND STOCKS.</b><br>Discount.....New List<br><b>Post Hole.</b><br><b>DIGGERS.</b><br>Eureka.....per doz. \$14 50<br>Iwan's Split Handle (Eureka)<br>4-ft. Handle.....per doz. 14 00<br>7-ft. ".....20 00<br>Iwan's Perfection (Atlas) " 16 00<br>Iwan's Hercules pattern " 16 15<br>See also Augers—Post Hole.<br>Dividers, Wing.....25%   | <b>FILES AND RASPS.</b><br><b>Delta</b><br>Delta.....30%<br>Swiss.....List plus 25%<br>Utility....." net.<br><b>Nicholson's—</b><br>American.....50&2½%<br>Arcade.....50&2½%<br>Black Diamond.....40%<br>Eagle.....50&2½%<br>Great Western.....50&2½%<br>Kearney & Foot.....50&2½%<br>McClellan.....50&2½%<br>Nicholson.....40%<br>J. Barton Smith.....50&2½%<br>X-F Swiss Pattern....List plus 10% | <b>HAFTS, AWL.</b><br><b>Brad.</b><br>Common.....per doz. \$0 35<br><b>Peg.</b><br>Patent, plain top....." 80<br>Patent, leather top... " 90<br><b>Sewing.</b><br>Common....." 24<br>Patent....." 55   | <b>HAY KNIVES.</b><br>See Knives.<br><b>HAY RACK BRACKETS</b><br>Wenzelman's No. 1 per doz. sets, \$18 00<br>Wenzelman's No. 2 " " 19 20   |
| <b>DOOR CHECKS—See Checks.</b><br><b>DOORS, SCREEN.</b><br>1-in. 4-panel, painted.....Net Prices<br>1½-in. 4-panel, painted....."<br>1½-in. 3-panel, natural pine,<br>fancy....."<br><b>DOOR HANGERS—See Hangers.</b>   | <b>FORKS.</b><br><b>Barley.</b><br>Steel, new list.....New Prices<br><b>Hay.</b><br>2-tine.....New prices<br>3- ".....New prices<br>4- ".....New prices<br>Digging.....New prices<br>Scoop.....New prices<br><b>Header.</b><br>3-tine.....New prices<br>4- ".....New prices<br><b>Manure.</b><br>4-tine.....New prices  | <b>HAMMERS, HANDLED.</b><br>per doz., net.<br>Blacksmiths, Hand, No. 0, 26 oz. \$11 11<br>Engineers', No. 1, 26 oz. 11 11<br>Farriers', No. 6, 7 oz. 7 23<br>Machinists', No. 1, 7 oz. 6 65  | <b>HAY RACK BRACKETS</b><br>Wenzelman's No. 1 per doz. sets, \$18 00<br>Wenzelman's No. 2 " " 19 20  |
| <b>DRILLS.</b><br>Blacksmiths' Twist. (New List)....40%<br><b>Breast.</b><br>Millers Falls No. 12....Each, \$46 00<br>" " " 112...." 26 00<br><b>Hand.</b><br>Goodell's Automatic.<br>Nos. 01 03<br>Per doz. 12 00 14 40<br>Goodell's Single Gear, per doz. 15 75<br>Goodell-Pratt No. 4½ per doz.<br>list, less.....35-40%<br>Goodell-Pratt No. 379 per doz.<br>list, less.....35-40%<br><b>Reciprocating.</b><br>Goodell's.....per doz. 26 00 | <b>FREEZERS—ICE CREAM.</b><br>White Mountain 1-quart.....@<br>" " 2 ".....@<br>" " 4 ".....@<br>" " 6 ".....@<br>Arctic.....1 ".....@<br>" " 2 ".....@<br>" " 4 ".....@<br>" " 6 ".....@<br>Prices on application   | <b>HAMMERS, HEAVY.</b><br><b>Heavy Hammers and Sledges.</b><br>Under 5 lbs. ....50%<br>5 lbs. and over.....50&10%<br><b>Masons'.</b><br>Single and Double Face.....50%   | <b>HAY RACK BRACKETS</b><br>Wenzelman's No. 1 per doz. sets, \$18 00<br>Wenzelman's No. 2 " " 19 20  |
| <b>DRIVERS, SCREW.</b><br>Standard.....Nets<br>Lock Ferrule....."<br>Champion....."<br>Champion Pattern....."<br>Clark's Interchangeable....."<br>Edison....."<br>Reed's Lightning....."<br>Goodell's Spiral....."<br>Yankee Ratchet....."<br>" Spiral....."  | <b>GIMLETS.</b><br>Discount.....35@40%<br><b>GLUE.</b><br><b>Bulk.</b><br>B Amber.....per lb. 35c<br>A White....." 40c<br>H. S. Amber....." 32c<br><b>Liquid.</b><br>Army & Navy.....40%<br>Le Page's—<br>List "A".....37½%<br>List "B".....33½%<br>List "C".....25%  | <b>HANDLES.</b><br><b>Auger.</b><br>Common Assorted.....per doz. \$0 75<br>Pratt's Adjustable, Nos. 1 & 2,<br>per doz. 6 00<br>Ives' Adjustable.....per set, 1 35<br>Axe.....30%<br><b>Chisel.</b><br>Hickory, Tanged, Firmer, Assorted,<br>55c; Large, 85c per doz.<br>Hickory, Socket Firmer, Assorted,<br>70c; Large size, 80c per doz.<br>Coal Pick.....40%<br>Drifting Pick.....40%<br>File, assorted, 30c; Large, 35c per doz. | <b>HAY RACK BRACKETS</b><br>Wenzelman's No. 1 per doz. sets, \$18 00<br>Wenzelman's No. 2 " " 19 20  |
| <b>EAVES, TROUGH.</b><br>60% off Standard List.<br><b>ELBOWS—Stove Pipe.</b><br>1-piece Corrugated, Uniform.<br>Doz.<br>5-inch.....\$1 40<br>6-inch.....1 50<br>7-inch.....1 90<br>Uniform, Color Adjustable<br>Doz.<br>5-inch.....\$1 35<br>6-inch.....1 45<br>7-inch.....1 80   | <b>GAUGES.</b><br><b>Cream Pail.</b><br>Fairmount.....per doz. \$3 75<br><b>Marking, Mortise, etc.</b> .....Nets<br><b>Wire.</b><br>Disston's.....25%   | <b>Hammer.</b><br>Adze Eye.....per doz. 40 to \$1 00<br>Blacksmiths'....." 45c@1 00<br>Machinists'....." 50c@1 00<br><b>Hay and Manure Fork</b> .....25%<br><b>Screw Driver.</b><br>Assorted....." 6½<br>Large....." 9½<br><b>Shovel and Spade</b> .....25%  | <b>HAY RACK BRACKETS</b><br>Wenzelman's No. 1 per doz. sets, \$18 00<br>Wenzelman's No. 2 " " 19 20  |
| <b>GREASE, AXLE.</b><br><b>Wood Boxes.</b><br>Frazer's.....per gro. \$13 00<br>Hub Lightning.....7 50   | <b>GLUE.</b><br><b>Bulk.</b><br>B Amber.....per lb. 35c<br>A White....." 40c<br>H. S. Amber....." 32c<br><b>Liquid.</b><br>Army & Navy.....40%<br>Le Page's—<br>List "A".....37½%<br>List "B".....33½%<br>List "C".....25%  | <b>Hammer.</b><br>Adze Eye.....per doz. 40 to \$1 00<br>Blacksmiths'....." 45c@1 00<br>Machinists'....." 50c@1 00<br><b>Hay and Manure Fork</b> .....25%<br><b>Screw Driver.</b><br>Assorted....." 6½<br>Large....." 9½<br><b>Shovel and Spade</b> .....25%  | <b>HAY RACK BRACKETS</b><br>Wenzelman's No. 1 per doz. sets, \$18 00<br>Wenzelman's No. 2 " " 19 20  |
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|  |   |  |   |  |  |  |                                  |  |   |  |                            |                         |                           |                                 |  |  |  |   |  |  |  |  |   |                                 |  |  |   |   |   |   |  |   |   |   |   |   |  |  |  |   |                               |   |  |   |                              |  |  |  |  |                           |  |                                  |   |                             |   |   |  |                            |   |  |   |  |   |                               |                         |   |  |  |  |   |  |   |   |   |   |   |
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| Box.<br>Inch..... 5 7 10 12<br>Per doz...\$2 50 2 75 3 25 3 85 | Bush.<br>Common Axe Handle, per doz.\$22 00 | Chain.<br>Inch. 1 1/4 1 1/2 1 3/4 2<br>Pr 100 \$7 60-8 10 9 75 11 50 12 60 | Clothes Line.<br>Japanned..... per doz.48c @ 1 40<br>Galvanized..... " 75c @ 2 50 | Coat and Hat.<br>Common Wire..... per gro. 1 25-1 65 | Conductor.<br>Iwan's Tinned Sickle.....10% | Corn.<br>Common, riveted, painted<br>red..... per doz. Nets<br>Little Giant..... " " | Gate.<br>See Goods, Bright Wire. | Grass.<br>Common Nos. 1 3 5 7<br>Per doz...\$4 50 3 50 3 75 3 25 | Hammock.<br>With plate..... per doz. 1 10<br>With screw..... " 1 00 | Lambrequin, or Drapery, per gro. .30c<br>Picture.....50% @ 50c 10% | Potato and Manure.....Nets | Screw.<br>Brass.....70% | (See Goods, Bright Wire.) | Seat Spring..... per lb. 5 1/2c | HOSE, GARDEN.<br>Coupled, per ft.<br>Velvet, 3 ply-1" guar. press. 14c<br>Eclipse..... " " 17 1/2c<br>Diamond..... " " 21c | COTTON COV. RUBBER HOSE.<br>High Grade Apache 1" guar. press.<br>400 lbs.....40c | HUSKERS.<br>Boss.<br>Nos..... B E<br>Per doz.....New Nets<br>No. 59..... per doz. New Nets | IRON, PIG.<br>See Metals.—First column. | IRONS.<br>Curling.<br>C..... per doz. \$4 40<br>B..... " 50<br>A..... " 58<br>Princess..... " 1 25<br>Thelma..... " 1 25<br>Pinkie..... " 1 00 | Plane.<br>Wood Bench.....Add 10% to list | Sad.<br>Charcoal..... per doz. \$11 00<br>Common, polished, per 100 lbs. 7 75<br>No. 70 Asbestos.....\$1 50 net<br>No. 100..... " 1 75 net<br>Common, nickel plated..... 8 25<br>Mrs. Pott's,<br>No. 50 J, Enterprise, per set, Nets<br>No. 55 J..... " "<br>No. 50 T..... " "<br>No. 55 T..... " "<br>Tailors' Sad..... per lb<br>Tailors' Goose..... " " | Ideal.<br>6 lb. Household.....\$3 50<br>9 lb. Dressmakers..... 4 25<br>14 lb. Tailors' Goose..... 5 50 | Tayere.<br>Single Duck Nest..... per doz. \$5 25<br>Double Duck Nest..... 6 25<br>Sutton..... each 2 60 | JACKS.<br>Locomotive.....30&10% | Wagon.<br>Richard's No. 1..... per doz. \$15 50<br>Miller..... 20 00 | Oliver,<br>Nos..... 0 00<br>Each.....\$0 60 \$0 80 | Standard,<br>Nos..... 2<br>Each.....\$0 60 1 00<br>R-W<br>Big Lift.....40%<br>Tiger.....40% | KETTLES.<br>Brass.....15%<br>Cauldron.....40&5%<br>Copper..... per lb. 27<br>Maslin.....40&10%<br>Sugar.....50% | KNIVES.<br>Beet Topping.<br>Clyde, 9-in. Scimitar Blade, dz. \$3 85<br>California..... 3 40<br>Butcher..... Per doz.<br>Handles, 6" blade..... \$3 25<br>Beechwood handles, 9" blade..... 4 80<br>Maslin..... 10" " 5 25<br>Cooper's Hoop.....15% | Corn.<br>Clipper..... per doz. \$1 75<br>Disston..... 2 75<br>Earle's..... " 3 00<br>Woodford..... " 2 25 | Drawing.<br>Standard.....(New List).....15%<br>Adjustable.....15%<br>Barton's Carpenters.....15% | Hay.<br>Iwan's Solid Socket..... doz.\$13 00<br>Heath's..... 13 00<br>Iwan's, Sickle Edge..... " 15 50<br>Iwan's, Imp'd Serrated..... " 15 75 | Hedge.<br>Challenge..... per doz. \$6 00<br>Disston's..... " 3 75 | Mining.<br>Common, Single..... " 60<br>Common, Double..... " 90<br>Streeter, 4-blade..... " 1 30<br>Streeter, 6-blade..... " 2 00 | Putty.<br>Common..... per doz. \$0 75 @ 1 50<br>Lander's..... " 1 75 @ 2 50 | Scraping.<br>Beech Handle..... 90 @ 1 10<br>Lander's..... 5 50 @ 6 50 | Knobs.<br>Mineral..... per doz. \$2 10<br>Porcelain..... " 2 20<br>Jet..... " 2 20 | LADDERS.<br>Common Long.<br>Per ft.....17c @ 23c<br>Extension.<br>Per ft..... 22 to 28<br>Step.<br>Common, per ft.....23c<br>Common, with Shelf, add 10c.....34c<br>IXL.....55c<br>Challenge, 6 to 9 ft.....60c<br>10 to 16 ft.....60c | LANTERNS.<br>Bull's Eye Police.<br>3-in. Flash Light..... per doz. \$13 00 | LEADERS, CATTLE.<br>Nos..... 51 52<br>Per doz.....\$1 35 1 45 | LEATHER, LACE.<br>Cut.....50% | Sides.<br>Ex. Quality..... per sq. ft. \$0 45 | LEATHERS, PUMP.<br>Valve and Plunger.....10% | LIFTERS.<br>Stone Cover.<br>Coppered..... per gro. \$3 25 @ 5 50<br>Alaska..... 8 00<br>Alaska..... " 10 00 | Transom.<br>Payson's.....55% | LINES.<br>Chalk.<br>Twisted in 20-ft. hanks.<br>Nos. 4 6 7 8 9<br>Gro..... Prices on Application<br>Twisted in 50-ft. balls.<br>Nos. 1 2 3 4<br>Per doz..... Prices on Application<br>Braided in 20-ft. hanks.<br>Nos. 0 1 2 3<br>Per doz..... Prices on Application<br>Mason's..... " " | Clothes.<br>60 ft. Jute..... per doz. \$0 95<br>60-ft. Sisal..... " 40<br>50-ft. Cotton..... " 15<br>50-ft. Braided Cotton..... " 25 | LINING, STOVE.<br>Bricks..... per crate, 42c | MACHINES.<br>Boring.<br>Without Augers<br>Angular..... per doz. \$3 00 4 40<br>Upright..... " 2 60 4 00<br>Leather Riveting.<br>Chicago, Pomeroy..... per doz. \$9 00<br>Excelsior..... " 2 00<br>Handy..... " 2 00<br>Little Giant..... " 3 00<br>Pony, Pomeroy..... " 7 20 | MAIL BOXES.<br>See Boxes. | MALLETS.<br>Carpenters'.<br>Fibre Head, No. 2, per doz. \$16 50<br>" No. 3 " 19 50<br>" No. 4 " 28 50<br>Round Hickory..... " \$3 00-5 00<br>" Lignumvitae..... " 6 25-10 50<br>Square Hickory..... " 3 50-5 50<br>" Lignumvitae..... " 8 00-12 00 | Tinners'.<br>Hickory..... " 2 25 | MATS.<br>Door.<br>National Rigid.....50&10&5%<br>Acme Steel Flexible.....50%<br>Stove.<br>No. 2..... per gro. Nets<br>No. 1..... " "<br>No. 1 Asbestos Toasters, or<br>wire-covered Stove Mats,<br>with handle..... per doz. 1 10<br>No. 2 Asbestos Toasters, with<br>ring..... per doz. 60 | MATTOCKS.<br>Plumbs.....25% | MAULS.<br>Iron, lbs. 10 13 16 18<br>Per doz..... Prices on Application<br>Wood Face, lbs. 10 12 14<br>Per doz..... Prices on Application<br>Wood Choppers'.<br>Lake Super'r & Oregon Pat. 40&5% | MEASURES.<br>Galvanized, doz..... Nets<br>Japanned, doz..... Nets | MILLS, COFFEE.<br>Enterprise.....161%<br>Parker.....50&5%<br>Arcade.....40-10% | MITRE BOXES.<br>See Boxes. | MOPS.<br>Cotton. Star (Cut Ends).<br>Pounds 12' 15' 18' 24'-3 oz.<br>Per doz. \$4 50 5 65 6 75 9 00 | MOWERS, LAWN.<br>Gladiator—B. B.<br>Inches..... 16 18 20<br>Each.....\$6 50 7 25 8 00<br>King Universal—B. B.<br>Each.....\$5 25 5 75 6 00<br>Inches..... 14 16 18<br>Big Giant.....\$3 50 3 90 4 25 | NAILS.<br>Cut Steel..... Prices on Application<br>Cut Iron..... " | Wire.<br>Small Lots..... Prices on Application<br>Cement Coated.<br>Small Lots..... Prices on Application<br>Horseshoe.<br>Ausable.....55&5%<br>Capwell.....15%<br>Perfect.....55&5%<br>Putnam.....20&5%<br>Star.....30&5% | Picture.<br>Brass Heads.....25%<br>Brads.....50&5%<br>Furniture.....List plus 15% | NAIL PULLERS.<br>See Pullers. | NAIL SETS.<br>See Sets. | NETTING, POULTRY.<br>Galvanized before weaving.....40&10%<br>Galvanized after weaving.....40% | NIPPERS.<br>End Cutting.<br>Stubb's Pattern, Inches. 5 6<br>Per dozen.....\$4 65 6 75<br>End and Diagonal Cutting.<br>Swedish Side. Inches. 5 6<br>Per dozen.....\$4 50 5 75 | Hoof.<br>Heller's.....40&10%<br>V. & B.....55&5% | NOZZLES.<br>Hose.<br>Magic..... per doz. \$9 50<br>Diamond..... " 5 75 | NUTS, HOT PRESSED.<br>Square Tapped.<br>\$.05 off per 100 lbs.<br>Hexagon Tapped.<br>85c off per 100 lbs. | OILERS<br>Chase Pattern.<br>Brass and Copper.....25-10%<br>Zinc.....35%<br>Engineers'.<br>Tin..... per doz. \$7 00 @ 9 00<br>Machine.<br>Common..... per doz. \$0 85 | OPENERS.<br>Box.<br>See Box Chisels<br>Can.<br>Delmonico..... per doz. \$1 30<br>Never Slip..... " 65<br>Crate.<br>V. & B..... " 7 25-11 00 | OUTFITS, COBBLING<br>Combination..... per doz.\$16 00<br>Economy..... " 8 50<br>Family..... " 14 50 | PAISLS.<br>Cream.<br>14-qt., without gauge, per doz. \$9 50<br>18-qt., " " 11 00<br>20-qt., " " 11 75<br>Sap.<br>10-qt., IC Tin..... per doz. \$4 00<br>12 " " " 5 50<br>Stock.<br>Galv'd. qts. 14 16 18 20<br>Per doz...\$9 75 10 75 12 75 14 50<br>Water.<br>Galvanized, qts. 10 12 14<br>Per doz.....\$5 75 6 50 7 25<br>Wood.<br>Cable, 2-Hoop..... per doz. Nets<br>Cable, 3-Hoop..... " Nets<br>Cedar, 3-Hoop, brass.. " Nets | PANS.<br>Dripping.....Nets<br>Fry.<br>Common.....Nets<br>Acme..... "<br>Roasting.<br>Paxton,<br>Nos. 1 2 3 4<br>Per doz.....Nets<br>Neverburn..... "<br>Savory No. 200..... per doz. \$8 40 | PAPER.<br>Building.<br>Plain..... per 100 lbs. Prices on Application<br>Tarred..... " "<br>Tarred Felt..... " "<br>Red Rosin, 20-lb..... per roll 72c<br>Red Rosin, 25-lb..... " 90c<br>Red Rosin, 30-lb..... " \$1 08<br>Sand and Emery.<br>No. 1, per ream, best grade.... \$6 00<br>No. 1, per ream, cheaper grade. 5 40<br>Wrapping.<br>Express.....100 lbs. Nets |
|--|---|--|---|--|--|--|----------------------------------|--|---|--|----------------------------|-------------------------|---------------------------|---------------------------------|--|--|--|---|--|--|--|--|---|---------------------------------|--|--|---|---|---|---|--|---|---|---|---|---|--|--|--|---|-------------------------------|---|--|---|------------------------------|--|--|--|--|---------------------------|--|----------------------------------|---|-----------------------------|---|---|--|----------------------------|---|--|---|--|---|-------------------------------|-------------------------|---|--|--|--|---|--|---|---|---|---|---|

| PARERS.                                   | Tinners'.                                 | PUNCHES.                                    | SAWS.                                 |
|---|---|---|---------------------------------------|
| <b>Apple.</b>                             | Hollow.....Net list                       | <b>Conductors.</b>                          | <b>Band.</b>                          |
| Goodell's.....per doz. \$10 80            | Solid.....each, 10c                       | No. 22.....per doz. \$3 00                  | E. C. Atkins & Co. Prices on applic'n |
| Turntable....." 11 40                     |   | Machine.....per lb. 25                      | <b>Buck.</b>                          |
| White Mountain....." 8 40                 | <b>PLUMBS AND LEVELS.</b>                 | <b>Saddlers'.</b>                           | Disston's.....New nets                |
| Reading, No. 78....." 11 40               | Common.....Nets                           | Common.....per doz. 1 50 to 5 00            | Jackson's.....New nets                |
| <b>Potato.</b>                            | Cook's.....40%                            | <b>PUTTY.</b>                               | <b>Butchers'.</b>                     |
| Goodsell's Saratoga, 10 1/2 in., dz. 6 50 | Davis' Iron.....25%                       | Strictly pure.....per 100 lbs. \$4 25       | E. C. Atkins & Co. Prices on applic'n |
| Goodsell's Saratoga, 5 in., dz. 5 50      | Davis' Inclinator.....15%                 | <b>RAIL.</b>                                | Disston's.....New nets                |
| <b>PICKS.</b>                             | <b>POKERS, STOVE.</b>                     | <b>Barn Door.</b>                           | <b>Circular.</b>                      |
| Adze Eye Ore.....22 1/2%                  | Wr't Steel, str't or bent per doz. \$0 75 | Matchless, 1-in.....5c                      | E. C. Atkins & Co. Prices on applic'n |
| Drifting and Poll Picks.....22 1/2%       | Nickel Plated, coil han'l's " 1 10        | Matchless, 1 1/2-in.....7c                  | Disston's.....New nets                |
| Plumbs, Railroad.....22 1/2%              | <b>POLISH.</b>                            | Storm King.....5c                           | Hiles'.....New nets                   |
| Surface.....22 1/2%                       | <b>Burnshine.</b>                         | <b>Sliding Door.</b>                        | Simonds'.....New nets                 |
| <b>PINCERS.</b>                           | 1-pint.....doz. \$1 10                    | Bronzed wrought iron...per ft. 8 1/2c       | <b>Compass.</b>                       |
| Carpenters', cast steel.                  | 1-pint....." 1 50                         | <b>RAKES.</b>                               | E. C. Atkins & Co. Prices on applic'n |
| Inches.... 6 8 10 12                      | 1-pint....." 2 60                         | Per doz.                                    | Disston's.....New nets                |
| Per doz....\$3 75 4 75 6 25 7 00          | 1-quart....." 5 00                        | Garden.                                     | Simonds'.....New nets                 |
| Blacksmiths'.....45%                      | 1-gal....." 9 00                          | Steel, Bow, 12-inch Teeth.....\$8 50        | <b>Dehorning.</b>                     |
| Heller's.....40%                          | 1-gal....." 15 00                         | Steel, Bow, 14-inch.....9 25                | Disston's.....New nets                |
| <b>PINS.</b>                              | <b>Metal.</b>                             | Malleable Iron, 12-in. " 4 75               | <b>Hack.</b>                          |
| Clothes.                                  | Wizard, 6 oz.....per gross \$17 40        | Malleable Iron, 14-in. " 5 00               | Disston's.....New nets                |
| Common....per box of 5 gro. \$0 95        | " 1 pt....." 19 20                        | <b>Hay.</b>                                 | Simonds', Box Lots.....New nets       |
| <b>Picket</b>                             | " 1 qt....." 36 00                        | Wood, 10 Teeth.....\$4 00                   | <b>Star.</b>                          |
| Fluted, 15-in.....per doz. \$1 10         | " 1 gal....." 9 60                        | 20 Teeth.....per doz. \$5 50                | <b>Hand and Rip.</b>                  |
| Fluted, 21-in....." 1 60                  | " 1 gal....." 15 60                       | <b>RASPS—See Files.</b>                     | E. C. Atkins & Co. Prices on applic'n |
| Spiral....." 1 90                         | <b>Stove.</b>                             | <b>RAZORS—SAFETY.</b>                       | Disston's No. 7.....New nets          |
| <b>PIPE.</b>                              | Black Eagle Paste, 1-lb. cans,            | Gillette.....per doz. \$45 00               | Disston's Nos. 8, D8, 12, 76, 112,    |
| Conductor.                                | per gross.....\$30 00                     | Auto Strip....." 45 00                      | D100, and 120.....New nets            |
| Standard Gauge Conductor Pipe,            | Black Eagle Paste, 5-lb. cans,            | Gem (3 doz. lots)....." 8 40                | Keystone.....New nets                 |
| plain or corrugated.                      | per case.....4 90                         | Ever Ready....." 8 40                       | <b>Keyhole.</b>                       |
| Not Nested.....45&5% off                  | Black Jack Paste, #10, 8 oz.,             | Ever Ready (3 doz. lots) " 8 00             | Disston's.....New nets                |
| Nested solid.....50% off                  | per gross.....11 40                       | <b>RAZOR STROPS.</b>                        | <b>Miter Box.</b>                     |
| L. C. L. to Dealers:—                     | Black Eagle Liquid, 6 oz.,                | Star (Ironing).....50%                      | E. C. Atkins & Co. Prices on applic'n |
| Terms 60 days; 2% Cash 10 days.           | per gross.....13 20                       | <b>REGISTERS.</b>                           | Disston's No. 7.....New nets          |
| Factory shipments generally delivered.    | <b>FIRE POTS.</b>                         | Japanned, Bronzed & Plated.....40%          | Disston's No. 8, D8, 12, 76, 112,     |
| <b>Stove.</b>                             | Clayton & Lambert's, each \$4 00@6 00     | Solid Brass or Bronze Metal..Net            | D100, and 120.....New nets            |
| Per 100                                   | Gate City.....each, 6 25                  | list plus.....Prices on application         | Keystone.....New nets                 |
| Joints                                    | Gem.....each, \$6 75@8 50                 | Baseboard.....40%                           | <b>Keyhole.</b>                       |
| 29-Gauge, 3-inch.....\$15 50              | <b>POWDER.</b>                            | Japanned, Bronzed and Plated.               | Disston's.....New nets                |
| " 4-inch.....16 50                        | See Ammunition.                           | 4x6 to 14x14.....40%                        | <b>Miter Box.</b>                     |
| " 5-inch.....17 70                        | <b>PRESSES, FRUIT AND JELLY.</b>          | 14x14 to 38x42.....60%                      | E. C. Atkins & Co. Prices on applic'n |
| " 6-inch.....18 75                        | Enterprise Manufacturing Co.....25%       | <b>REVOLVERS.</b>                           | Disston's No. 7.....New nets          |
| " 7-inch.....21 20                        | <b>PRIMERS.</b>                           | Iver Johnson Safety Automatic               | Disston's No. 8, D8, 12, 76, 112,     |
| <b>T-Joint, Made-up.</b>                  | See Ammunition.                           | Hammer.....New Nets                         | D100, and 120.....New nets            |
| 6-inch.....per 100 \$31 00                | <b>PRUNERS.</b>                           | Hammerless....."                            | Keystone.....New nets                 |
| <b>Furnace Pipe.</b>                      | Disston's Pole.....per doz. \$18 00       | L. J. Model 1900....."                      | <b>Panel.</b>                         |
| Double Wall Pipe and Fittings 3 1/2%      | Water's Improved.....60%                  | <b>RINGS AND RINGERS.</b>                   | E. C. Atkins & Co. Prices on applic'n |
| Single Wall Pipe, Round Pipe              | <b>PULLERS.</b>                           | <b>Bull.</b>                                | Disston's No. 7.....New nets          |
| Fittings.....23 1/2c                      | Cork.                                     | Copper.....2 1/2-in. 3-in.                  | Disston's No. 8, D8, 12, 76, 112,     |
| Galvan'd and Black Iron Pipe,             | Daisy.....each, \$3 10                    | Per doz.....\$2 75 \$3 25                   | D100, and 120.....New nets            |
| Shoes, etc.....30%                        | Phoenix....." 1 40                        | Rea's Improved Self-                        | <b>Pruning.</b>                       |
| <b>PLANES.</b>                            | Quick and Easy....." 2 70                 | Piercing copper, doz. 3 40                  | Disston's.....New nets                |
| Stanley Iron Bench.....net                | <b>Nail.</b>                              | Steel, per doz.....1 50 1 80                | <b>Rift.</b>                          |
| <b>PLATES, TIN.</b>                       | Giant.....per doz. 14 50                  | <b>Hog.</b>                                 | Simonds'.....New nets                 |
| See Metals in Column 1.                   | Never-Slip....." 17 00                    | Blair's Rings.....per doz. \$ 75            | <b>Wood.</b>                          |
| <b>PLIERS.</b>                            | <b>PULLEYS.</b>                           | Blair's Ringers....." 1 00                  | E. C. Atkins & Co. Prices on applic'n |
| Giant, Button's—Nets                      | Awning—Jap'd.....10%                      | Brown's Rings....." 72                      | Common.....New nets                   |
| <b>Cutting.</b>                           | Clothes Line.....10%                      | Brown's Ringers....." 1 00                  | Clover leaf.....New nets              |
| Bernard's.....New Prices                  | Hay Fork.                                 | Hill's Ringers....." 1 00                   | <b>SAW BUCKS—See Bucks.</b>           |
| Lodi.....New Prices                       | Iron Wheel, 5-in.....per doz. 2 50        | Hill's Ring, boxes....." 72                 | <b>SAW SETS—See Sets</b>              |
| Paragon.....New Prices                    | Wood Wheel, 6-in....." 2 65               | Major Rings....." 60                        | <b>SAW TOOLS—See Tools.</b>           |
| <b>Fencing.</b>                           | Wood Wheel, 6-in., pass knot,             | Perfect Ringers....." 1 50                  | <b>SAW FRAMES.</b>                    |
| Black Bull.....All Nets                   | .....per doz. 3 00                        | Wolverine Ringers....." 1 65                | Common, plain.....per doz. \$1 50     |
| Farmers' Choice.....All Nets              | <b>Sash.</b>                              | Wolverine Ringers....." 1 10                | Common painted....." 2 10             |
| Russell's.....All Nets                    | Common.....Net                            | <b>Fruit Jar.</b>                           | <b>SCALES.</b>                        |
| <b>Flat and Round Nose.</b>               | Common-Sense, 2-in.....Net                | White.....per lb.....30c                    | Counter.                              |
| Bernard's.....New Prices                  | Empire Pattern, 2-in.....Net              | <b>Key.</b>                                 | Pelouze.....40&10%                    |
| Lodi.....New Prices                       | Ideal.....Net                             | Split, round.....per doz. \$0 17            | <b>SCISSORS.</b>                      |
| Paragon.....New Prices                    | Steel.....Net                             | Split, square....." 32                      | Star.....60%                          |
| <b>Gas.—Inches 7 8 10 12 14</b>           | <b>PUMPS.</b>                             | Ball, round....." 40                        | <b>SCOOPS.</b>                        |
| Per doz. 5 00 5 50 " 00 8 00 10 00        | Pitcher Spout.                            | <b>RIVETS.</b>                              | Grain.                                |
|   | Nos.....1 2 3 4                           | Copper Belt.....Add 15% to list             | 1 bu. "Hercules".....per doz. 3 70    |
|   | Each.....Nets                             | Coppered Iron.....30%                       | 1 bu. "Hercules"....." 5 00           |
|   | <b>Spray.</b>                             | Tinners'.....30%                            | <b>SCRAPERS.</b>                      |
|   | Midget Junior.....per doz. 3 75           | Hame.....per lb. \$0 17                     | Box.                                  |
|   | New Misty....." 6 00                      | Slotted Clinch.....per doz. 60c@1 10        | Triangular, No. 6.....per doz. \$6 25 |
|   | Crescent....." 6 50                       | Tubular.                                    | <b>Cabinet.</b>                       |
|   |   | Nos. 1 and 2 assorted sizes, 50             | Cast Steel, Nos. 2 1/2x5 3x5 3 1/2x6  |
|   |   | in box.....doz. 75c                         | Per doz.....\$1 10 1 25 1 80          |
|   |   | Nos. 1 and 2 assorted sizes, 10             | <b>Road.</b>                          |
|   |   | in box.....doz. 1 40                        | Cubic ft.....7 5 3                    |
|   |   | <b>RIVET SETS.</b>                          | With runners, ea. \$7 00 6 50 6 20    |
|   |   | See Sets.                                   | <b>SCREEN DOOR HINGES.</b>            |
|   |   | <b>ROPE.</b>                                | Cast iron.....gross, \$13 00          |
|   |   | Cotton.                                     | Steel....." 9 50                      |
|   |   | 1/2, 5-16 in. Com. o' reels, per lb. Market | <b>SCREWS.</b>                        |
|   |   | 1/2, 5-16 in. Com. in coils. " Price        | Bench.                                |
|   |   | <b>Sisal.</b>                               | Iron, ins. 1 1 1/2 1 1/2 1 1/2        |
|   |   | 1st Quality.....23 1/2c                     | \$9 75 11 50 13 75 21 50              |
|   |   | No. 2.....20 1/2c                           | Wood, white maple.....per doz. 6 00   |
|   |   | <b>Pure Manila.</b>                         | Hand—Wood.....35%                     |
|   |   | 1st quality, base.....per lb. 33 1/2c       | Hand Rail.....22 1/2%                 |
|   |   | Hardware Grade.....32 1/2c                  | Jack.....30-5%                        |
|   |   | <b>RULES.</b>                               | Lag or Coach—all sizes, gimlet        |
|   |   | Hickory Board.....20%                       | pointed.....40%                       |
|   |   | Log.....20%                                 | <b>Saw—Centennial.</b>                |
|   |   |   | Nos.....1 2 3 4                       |
|   |   |   | Per doz.....47c 55c 75c 90c           |
|   |   |   | <b>Wood.</b>                          |
|   |   |   | F. H. Bright.....70-10-10%            |
|   |   |   | R. H. Blued.....65-10-10%             |
|   |   |   | F. H. Jap'd.....62 1/2-10%            |
|   |   |   | F. H. Brass.....42 1/2-10-5%          |
|   |   |   | R. H. Brass.....40-10-5%              |
|   |   |   | R. H. Nickel Plated.....57 1/2-10%    |
|   |   |   | <b>SCYTHES.</b>                       |
|   |   |   | Clipper, grass.....per doz. \$13 50   |
|   |   |   | Honest Dutchman.....13 75             |



| SETS.                     |                      | SQUARES.                                 |  | TAPES, MEASURING.                       |  | WARE.  |  |
|---------------------------|----------------------|--|--|---|--|--|--|
| <b>Nail.</b>              |                      | <b>Steel and Iron.</b>                   |  | <b>Asses' Skin.</b>                     |  | <b>Stove Hollow Ware.</b>  |  |
| Square head.....          | per doz. \$1 25      | Nets new list                            |  | List Net                                |  | Plain or Unground.....   |  |
| Cup point, knurled..      | 1 15                 | (Add, for bluing, \$3.00 per doz., net.) |  | Lufkin's Steel.....                     |  | Ground Ware.....   |  |
| <b>Rivet.</b>             |                      | <b>Mitre.</b>                            |  | Lufkin's Metallic List to list plus 20% |  | Enameled Ware.....   |  |
| Farmers'.....             | per doz. \$2 10      | Try and Bevel.....                       |  | Lufkin's Pocket.....                    |  | Scotch Bowls.....  |  |
| Tinners'.....             | 25%                  | Try and Miter.....                       |  | <b>THERMOMETERS.</b>                    |  | Country Hollow Ware, per 100 lbs.  |  |
| <b>Saw.</b>               |                      | Fox's.....                               |  | Tin Case.....                           |  | White Enameled Ware.   |  |
| Aiken's Pattern.....      | per doz. \$6 50      | Winterbottom's.....                      |  | Wood Back.....                          |  | Maslin Kettles.....  |  |
| Disston's Monarch.....    | 7 20                 | <b>SQUEEZERS, LEMON.</b>                 |  | Glass.....                              |  | Neverbreak Flat and Round  |  |
| Disston's X-Cut.....      | 13 50                | Common Wood.....                         |  | <b>TIES.</b>                            |  | Bottom Kettles.....  |  |
| Leach's.....              | 80                   | Porcelain Lined, Wood.....               |  | Single Loop, carload lots.....          |  | <b>Covered Ware.</b>   |  |
| Nash's Hand.....          | 3 15                 | Boss, malleable iron.....                |  | "less than car lots 70&15%              |  | Tin'd and Turn'd.....  |  |
| Nash's X-Cut.....         | 4 20                 | Iron frame, porc'n bowl.....             |  | <b>TOOLS, SAW.</b>                      |  | Enameled.....  |  |
| Stillman's Lever.....     | 1 30                 | Iron frame, glass bowl.....              |  | Disston's Universal.....                |  | Glue Pots.   |  |
| Stillman's X-Cut.....     | 2 50                 | Little Giant, tin'd iron.....            |  | <b>TRAPS.</b>                           |  | Tinned.....  |  |
| <b>SHARPENERS, SKATE.</b> |                      | Drum, japanned.....                      |  | Mole.                                   |  | Enameled.....  |  |
| Diamond.....              | per doz. \$1 60      | Drum, nickel plated.....                 |  | Reddick's.....                          |  | Cherry Blossom and Chrysolite.....   |  |
| Perfect.....              | 1 20                 | <b>STAPLES.</b>                          |  | Game with Chains.                       |  | <b>WASH BOARDS—See Boards.</b>   |  |
| <b>SHAVES, SPOKE.</b>     |                      | Blind.                                   |  | Victor No. 1.....                       |  | <b>WASHERS.</b>  |  |
| Iron.....                 | per doz. \$1 10@1 85 | Barbed.....                              |  | Oneida Jump No. 1.....                  |  | Standard O. G. cast iron.....  |  |
| Wood.....                 | 2 75@4 75            | Butter Tub.....                          |  | Newhouse No. 1.....                     |  | Wrought steel in 5-lb. boxes, per lb.:   |  |
| Stanley's.....            | Nets                 | Fence—                                   |  | Mouse and Rat.                          |  | In. 3/16 1/2 5/16 3/4 1 1 1/2 1 3/4 2 1/2 3 1/2 4 1/2 5 1/2 6 1/2 7 1/2 8 1/2 9 1/2 10 1/2 11 1/2 12 1/2 13 1/2 14 1/2 15 1/2 16 1/2 17 1/2 18 1/2 19 1/2 20 1/2 21 1/2 22 1/2 23 1/2 24 1/2 25 1/2 26 1/2 27 1/2 28 1/2 29 1/2 30 1/2 31 1/2 32 1/2 33 1/2 34 1/2 35 1/2 36 1/2 37 1/2 38 1/2 39 1/2 40 1/2 41 1/2 42 1/2 43 1/2 44 1/2 45 1/2 46 1/2 47 1/2 48 1/2 49 1/2 50 1/2 51 1/2 52 1/2 53 1/2 54 1/2 55 1/2 56 1/2 57 1/2 58 1/2 59 1/2 60 1/2 61 1/2 62 1/2 63 1/2 64 1/2 65 1/2 66 1/2 67 1/2 68 1/2 69 1/2 70 1/2 71 1/2 72 1/2 73 1/2 74 1/2 75 1/2 76 1/2 77 1/2 78 1/2 79 1/2 80 1/2 81 1/2 82 1/2 83 1/2 84 1/2 85 1/2 86 1/2 87 1/2 88 1/2 89 1/2 90 1/2 91 1/2 92 1/2 93 1/2 94 1/2 95 1/2 96 1/2 97 1/2 98 1/2 99 1/2 100 1/2 101 1/2 102 1/2 103 1/2 104 1/2 105 1/2 106 1/2 107 1/2 108 1/2 109 1/2 110 1/2 111 1/2 112 1/2 113 1/2 114 1/2 115 1/2 116 1/2 117 1/2 118 1/2 119 1/2 120 1/2 121 1/2 122 1/2 123 1/2 124 1/2 125 1/2 126 1/2 127 1/2 128 1/2 129 1/2 130 1/2 131 1/2 132 1/2 133 1/2 134 1/2 135 1/2 136 1/2 137 1/2 138 1/2 139 1/2 140 1/2 141 1/2 142 1/2 143 1/2 144 1/2 145 1/2 146 1/2 147 1/2 148 1/2 149 1/2 150 1/2 151 1/2 152 1/2 153 1/2 154 1/2 155 1/2 156 1/2 157 1/2 158 1/2 159 1/2 160 1/2 161 1/2 162 1/2 163 1/2 164 1/2 165 1/2 166 1/2 167 1/2 168 1/2 169 1/2 170 1/2 171 1/2 172 1/2 173 1/2 174 1/2 175 1/2 176 1/2 177 1/2 178 1/2 179 1/2 180 1/2 181 1/2 182 1/2 183 1/2 184 1/2 185 1/2 186 1/2 187 1/2 188 1/2 189 1/2 190 1/2 191 1/2 192 1/2 193 1/2 194 1/2 195 1/2 196 1/2 197 1/2 198 1/2 199 1/2 200 1/2 201 1/2 202 1/2 203 1/2 204 1/2 205 1/2 206 1/2 207 1/2 208 1/2 209 1/2 210 1/2 211 1/2 212 1/2 213 1/2 214 1/2 215 1/2 216 1/2 217 1/2 218 1/2 219 1/2 220 1/2 221 1/2 222 1/2 223 1/2 224 1/2 225 1/2 226 1/2 227 1/2 228 1/2 229 1/2 230 1/2 231 1/2 232 1/2 233 1/2 234 1/2 235 1/2 236 1/2 237 1/2 238 1/2 239 1/2 240 1/2 241 1/2 242 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| <b>Punches.</b><br>Bertsch & Co.,<br>Cambridge City, Ind.<br>Niagara Machine & Tool Works,<br>Buffalo, N. Y.   | <b>Screens—Perforated Metal.</b><br>Harrington & King Perforating<br>Co., Chicago, Ill.  | <b>Stoves and Ranges.</b><br>Art Stove Co., Detroit, Mich.<br>Clark & Co., Geo. M., Chicago, Ill.<br>Ringen Stove Co., St. Louis, Mo.  | <b>Vines.</b><br>North Bros. Mfg. Co.,<br>Philadelphia, Pa.<br>Rock Island Mfg. Co.,<br>Rock Island, Ill.  |
| <b>Ranges—Combination Gas and Coal.</b><br>Ringen Stove Co., St. Louis, Mo.  | <b>Screw Drivers.</b><br>North Bros. Mfg. Co.,<br>Philadelphia, Pa.  | <b>Stove Pipe Reducer.</b><br>Sullivan-Geiger Co.,<br>Indianapolis, Ind.   | <b>Waterers—Stock.</b><br>Rock Island Mfg. Co.,<br>Rock Island, Ill.   |
| <b>Ranges—Gas.</b><br>Clark & Co., Geo. M., Chicago, Ill.<br>Ringen Stove Co., St. Louis, Mo.  | <b>Sheets—Black and Galvanized.</b><br>American Sheet & Tin Plate Co.,<br>Pittsburgh, Pa.<br>Dearborn Steel & Iron Co.,<br>Chicago, Ill.<br>Inland Steel Co., Chicago, Ill.<br>Stark Rolling Mill Co.,<br>Canton, Ohio.<br>Sykes Co., The, Chicago, Ill.<br>Whitaker-Glessner Co.,<br>Wheeling, W. Va.                               | <b>Tacks, Staples, Spikes.</b><br>American Steel & Wire Co.,<br>Chicago-New York.  | <b>ADVERTISING</b> is<br>the power of an idea<br>multiplied.   |
| <b>Rasps.</b><br>Delta File Works, Philadelphia, Pa.<br>Heller Bros. Co., Newark, N. J.  | <b>Sheets—Planished.</b><br>Sykes Co., The, Chicago, Ill.  | <b>Tapes.</b><br>Lufkin Rule Co., Saginaw, Mich.   | <b>Other powers lose by</b><br>expansion. Steam is<br>power only when con-<br>fined. Electricity radi-<br>ated and diffused be-<br>comes nothing. Sound<br>dies with distance.   |
| <b>Registers—Warm Air.</b><br>Hart & Cooley Co.,<br>New Britain, Conn.<br>Henry-Miller Foundry Co.,<br>Cleveland, Ohio.<br>Rock Island Reg. Co.,<br>Rock Island, Ill.<br>Schwab & Sons Co., R. J.,<br>Milwaukee, Wis.<br>Standard Furnace & Supply Co.,<br>Omaha, Neb.<br>Stearns Register Co., Detroit, Mich.<br>Waterloo Register Co.,<br>Waterloo, Iowa.                        | <b>Sheets—Tongue Metal.</b><br>Stark Rolling Mill Co.,<br>Canton, Ohio.  | <b>Tiles and Shingles—Metal.</b><br>Milwaukee Corrugating Co.,<br>Milwaukee, Wis.  | Great suns pale into<br>invisible stars, and the<br>power of light itself is<br>lost in infinite space.  |
| <b>Rivets—Stove.</b><br>Kirk-Latty Mfg. Co.,<br>Cleveland, Ohio.   | <b>Sheets—Vismora.</b><br>Inland Steel Co., Chicago, Ill.  | <b>Tin—Perforated.</b><br>Harrington & King Perforating<br>Co., Chicago, Ill.  | But the strange power<br>of advertising increases<br>by expansion. Diffusion<br>is its life. It grows by<br>what it imparts.   |
| <b>Roasters.</b><br>Whitaker-Glessner Co.,<br>Wheeling, W. Va.   | <b>Sifters—Ash.</b><br>Diener Mfg. Co., G. W.,<br>Chicago, Ill.  | <b>Tinplate.</b><br>American Sheet & Tin Plate Co.,<br>Pittsburgh, Pa.   | <b>The advertised idea,</b><br>to become a power,<br>must be genuine, vital,<br>and related to the func-<br>tion of a meritorious<br>business; and the<br>means of its further-<br>ance must be well<br>chosen.                                |
| <b>Rods—Stove.</b><br>Kirk-Latty Mfg. Co.,<br>Cleveland, Ohio.   | <b>Solder.</b><br>Allen Co., Inc., L. B., Chicago, Ill.  | <b>Tools—Auto Repair.</b><br>Curfman Mfg. Co., F. L.,<br>Maryville, Mo.  | <b>To choose well the</b><br>means for the further-<br>ance of <i>your</i> advertised<br>idea, in order that it<br>may become a power,<br>in order that you may<br>show its genuineness<br>as a vital factor of your<br>business, is not hard. |
| <b>Rolls—Forming.</b><br>Bertsch & Co.,<br>Cambridge City, Ind.<br>Niagara Machine & Tool Works,<br>Buffalo, N. Y.   | <b>Soldering Iron—Self Heating.</b><br>Allen Co., Inc., L. B., Chicago, Ill.   | <b>Tools—Carpenters'.</b><br>Lufkin Rule Co., Saginaw, Mich.<br>North Bros. Mfg. Co.,<br>Philadelphia, Pa.   | <b>To cover to cover of</b><br>this week's issue of<br>AMERICAN ARTISAN<br>AND<br>HARDWARE RECORD<br>will disclose abundant evi-<br>dence of this fact.  |
| <b>Roofing—Iron and Steel.</b><br>American Sheet & Tin Plate Co.,<br>Pittsburgh, Pa.<br>Friedley-Voshardt Co.,<br>Chicago, Ill.<br>Inland Steel Co., Chicago, Ill.<br>Milwaukee Corrugating Co.,<br>Milwaukee, Wis.<br>Stark Rolling Mill Co.,<br>Canton, Ohio.<br>Sykes Co., The, Chicago, Ill.<br>Tanner & Co., Indianapolis, Ind.<br>Whitaker-Glessner Co.,<br>Wheeling, W. Va. | <b>Specialties—Hardware.</b><br>Corbin Screw Corporation,<br>New Britain, Conn.<br>Delta File Works, Philadelphia, Pa.<br>Diener Mfg. Co., G. W.,<br>Chicago, Ill.<br>Heller Bros. Co., Newark, N. J.<br>Lufkin Rule Co., Saginaw, Mich.<br>North Bros. Mfg. Co.,<br>Philadelphia, Pa.<br>Rock Island Mfg. Co.,<br>Rock Island, Ill. | <b>Tools—Sheet Metal.</b><br>Bertsch & Co.,<br>Cambridge City, Ind.<br>Dreis & Krump Mfg. Co.,<br>Chicago, Ill.<br>Niagara Machine & Tool Works,<br>Buffalo, N. Y.<br>Tanner & Co., Indianapolis, Ind.   | <b>The advertised idea,</b><br>to become a power,<br>must be genuine, vital,<br>and related to the func-<br>tion of a meritorious<br>business; and the<br>means of its further-<br>ance must be well<br>chosen.                                |
| <b>Specialties—Tin and Sheet Metal.</b><br>Curfman Mfg. Co., F. L.,<br>Maryville, Mo.  | <b>Speedometers—Bicycle.</b><br>Corbin Screw Corporation,<br>New Britain, Conn.  | <b>Tools—Tinsmiths'.</b><br>Bertsch & Co.,<br>Cambridge City, Ind.<br>Double Blast Mfg. Co.,<br>North Chicago, Ill.<br>Dreis & Krump Mfg. Co.,<br>Chicago, Ill.<br>Niagara Machine & Tool Works,<br>Buffalo, N. Y.<br>Tanner & Co., Indianapolis, Ind. | <b>To become a power,</b><br>must be genuine, vital,<br>and related to the func-<br>tion of a meritorious<br>business; and the<br>means of its further-<br>ance must be well<br>chosen.  |
| <b>Torches—Gasoline.</b><br>Allen & Co., Inc., L. B., Chicago, Ill.<br>Clayton & Lambert Mfg. Co.,<br>Detroit, Mich.<br>Diener Mfg. Co., G. W.,<br>Chicago, Ill.   |  |  | <b>To disclose abundant evi-</b><br>dence of this fact.  |

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## WANTS AND SALES

For paid yearly subscribers, **AMERICAN ARTISAN AND HARDWARE RECORD** will insert under this head advertisements of not more than fifty words **WITHOUT CHARGE**. Employers wishing to secure employes, parties desiring to purchase or sell business, secure partners or to exchange, etc., will find that these pages offer excellent opportunities to satisfy their wants. Clerks and tinsmiths looking for situations will find it to their advantage to use these columns. Those who respond to these announcements please mention that they "READ THE ADVERTISEMENT IN AMERICAN ARTISAN AND HARDWARE RECORD."

## BUSINESS CHANCES

For Sale or Rent—A well equipped tin shop doing a good business and lots of work on hand. Will sell on easy terms or will rent. Answer Quick, F. L. Vannatta, Bloomville, Ohio. 11-3t

For Sale—Plumbing, warm air, vapor, hot water, tinning and lightning rod business in eastern Iowa. I can show this deal to be a money maker. J. J. Donohoe, Williamsburg, Iowa. 13-4t

For Sale—70 Fenner's Metal Weather strips. Assorted sizes and C. C. and B. J. finish. \$25.00 cash. All in good condition. Boxed ready to ship. Fremont Furnace and Metal Works, Fremont, Nebraska. 12-3t

For Sale—One Ideal lawn mower; fine shape; rotary shear flander pat. Good condition; 20" grooving machine, P. S. & W. stove pipe crimp machine. Will make good price on the above items. Cole Hardware Company, Bethany, Missouri. 11-3t

For Sale—Well equipped tin and plumbing shop in town of about 1,400 in Northern Indiana. Rent reasonable and very little competition. Good outlook for business. Reason for selling, am on the road. Address E. St. John, Walkerton, Indiana. 11-3t

For Sale—A good clean stock of hardware and tin shop. Invoice about \$17,000. Population 2,500. Center of Illinois. Good farming country. Reason for selling, on account of health. Address A-70, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 13-3t

For Sale—Owing to the death of owner we offer for sale a fine furnace and sheet metal business in a Western seaport town of 130,000 population with acknowledged brightest prospects of any of coast cities. Excellent opportunity. Fine paying business. Will stand close inspection. Address A-73, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 13-3t

For Sale—Plumbing and sheet metal shop in metropolis of southeastern Kentucky, located junction of Kentucky, Virginia to Tennessee, in one of the best and largest coal fields in the United States. New and fast being developed, and also tributary to fine farming and stock country. City and tributary country with almost unlimited business. City has splendid water works—gets pure and healthy water from beautiful mountain lake. To anyone interested I will be glad to give any further information they may desire. W. L. Salyers, Middlesboro, Kentucky. 13-4t

For Sale—Live plumbing and heating and sheet metal shop in one of the best growing cities in Montana. County seat of 2,500. No outside competition within seventy miles. Stock and tools invoices \$8,200. Spring prospects never looked better. Ill health compels us to sell at a sacrifice. Terms cash. Business well established. Offers splendid opportunity for increased volume for right kind of man. This opening will bear inspection. Unless you have the money and mean business, please do not waste time by writing. Address A-63, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 11-3t

## BUSINESS CHANCES

For Sale—An old established tin shop. 13 years in business at 1711 South Broadway, St. Louis, Missouri. A. Lindauer. 11-3t

## HELP WANTED

Wanted—Tinner, one who can do furnace work and plumbing. Steady work for right man. Wages \$25.00 to \$35.00 per week. M. E. Southwick, Moline, Iowa. 12-3t

Wanted at Once—A good all around tinner and furnace man, one who is able to do some country plumbing. Steady job and good wages. Treckers and Phillips, Odell, Illinois. 8-ufn

Wanted—A tinner who is willing to help in hardware store. Steady job for a dependable man. Send references and state salary wanted. O'Brien Brothers, Devils Lake, North Dakota. 12-3t

Wanted at Once—A man who can do all kinds of sheet metal work, plumbing, hot air, steam and hot water heating. Steady job. \$25.00 per week. Address E. E. Nellans, Mentone, Indiana. 11-3t

Wanted—Tinner for bench work accustomed to work on copper. Must be neat workmen. Steady work and good wages. Address Chas. Skidd Manufacturing Company, Janesville, Wisconsin. 13-3t

Wanted—A man who can do all kinds of sheet metal work, plumbing, hot air, steam heat and hot water heating. Will pay \$25.00 per week. Neosho Plumbing, Heating and Manufacturing Company, Neosho, Missouri. 13-3t

Wanted—First-class plumber, one who can do hot water heating and tin work in all its branches. Steady work for capable man. State wages in first letter or no attention will be paid. Address Box 156, Laurel, Nebraska. 12-2t

Wanted at Once—Tinner or plumber, or a good windmill and pump man who is handy at other work. Mostly country work. Could give steady job the year around to right man. State wages wanted. Sam Bergh, Wayland, Iowa. 13-3t

Wanted—All around tinner and plumber; one who can also do hot air, steam and hot water heating. Steady employment the year around. Married man preferred. State full particulars about yourself and wages expected in first letter. Schaefer Hardware Company, Crystal Lake, Illinois. 12-3t

Wanted at Once—One first-class metal workman for bench work. Young man preferred who has some speed and thoroughly understands this work. Also one man who thoroughly understands radiator repair work and can do metal work. Steady for the right men. Brizee Metal Works, Twin Falls, Idaho. 12-3t

Wanted—A tinner and sheet metal worker to take charge of a shop in Eastern Montana. Must have ability and be able to handle heating and ventilating jobs. Steady employment. Address A-62, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 11-2t

Wanted—One first-class sheet metal worker who can do inside and outside work, including roofing, gutters, spouting and general repair work. Eight hours per day. 70 cents per hour. If you can do above work and want to come, wire. If job still open we will wire you to come. No transportation furnished. Address Box 194, Charleston, West Virginia. Kanawha County. 12-3t

Wanted—First-class tinner and draughtsman; competent to take full charge as manager of a growing manufacturing business making a specialty of farmers and feeders supplies. Man desiring a permanent position or wishing to buy an interest in the business preferred. County seat; population 12,000; eastern Nebraska. Please address replies to A-64, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 11-3t

Wanted—Competent sheet metal workers. Men who are able to get out own patterns and do all kinds of jobbing on work that must be right. If you are this kind of a man reply at once. Union town and a brand new shop with lots of light and the finest of equipment for light and heavy sheet metal work. Married men preferred. Scale is 70c per hour. Address A-71, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 13-3t

## HELP WANTED

Wanted at Once—Tinner and furnace man, one who can assist in store. Permanent position to right man. Hill and Sperbeck, Spirit Lake, Iowa. 10-3t

Wanted at Once—We have a first-class job the year around for a good combination man—a plumber and tinner. Tyler and Hallas, Salem, South Dakota. 12-3t

Wanted—First-class tinner and furnace man, one who can do steam and hot water heating. Steady employment to right man. Randolph Hardware Company, Randolph, Wisconsin. 12-3t

Wanted at Once—A first-class sheet metal worker, plumber, hot water, steam and warm air heating man. Steady employment the year around. Married man preferred. No boomer. Begin at once. A. L. Spradling, 218 East Main Street, Hoopeson, Illinois. 12-3t

Wanted—Sheet metal and furnace man to take charge of shop. Opportunity to get a working interest in the business for the right man. Must be strictly sober and not more than 40 years of age. Will pay up to 65c per hour. Roell Heating & Ventilating Company, Minot, North Dakota. 12-3t

## SITUATION WANTED.

Wanted—Situation by tinner-clerk in good country town. Can also do some plumbing. Address Clerk, 719 North Street, Peoria, Illinois. 13-3t

Wanted—Situation by a first-class sheet metal worker and furnace man. Am steady and sober and want a steady job. Address Tinner, 2241a E Street, Granite City, Illinois. 12-3t

Situation Wanted by a first-class tinner and furnace man, also experienced hardware clerk. Steady and reliable. Address A-65, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 13-3t

Situation Wanted—Who wants a first-class shop foreman by April or May? I draft any patterns from blue prints. Position must be in a town of 10,000 or more population. Shop must have plenty of room and light and do first-class work. State wages in first letter. Box 145, Dodsonville, Texas. 11-3t

Situation Wanted—By a practical hardware man. Have had 15 years' experience with some up-to-date hardware firm. Will consider to buy an interest in one. Please Address replies to A-69, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 13-3t

Situation Wanted—By a first-class mechanic capable of taking charge of a combination shop doing plumbing, heating and sheet metal work. Nothing but a year around job considered. State salary you are willing to pay. Address replies to A-72, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 13-3t

Situation wanted by an experienced hardware man. Can do plumbing, heating, electric wiring, install milking machines and do anything that comes in the hardware line. Am married and sober. Can furnish A1 references. Prefer place where work brings advancement. Address A-67, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 12-3t

Situation Wanted—By a first-class tinner and furnace man. Am steady, married and thirty years of age. Have had twelve years' experience. Must be a steady job. Am at present employed but would like a change for good reasons. Wages not less than fifty cents per hour. Kindly address replies to A-68, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 13-3t

Wanted—Position as plumber and tinner. Am 36 years old, single and have no bad habits. Can handle truck or auto. 21 years at plumbing and tinning. Can also wipe lead joints. Expert on furnaces and heating. I am not a would-be mechanic. A trial will convince you. State your wages in first letter. I worked at Rock Island Arsenal. If you desire a first-class workman write to Lee Ballie, 1613 11th Street, Moline, Illinois. 12-3t



## SITUATION WANTED

Situation wanted by first-class sheet metal worker. Can do cornice work, skylights, ventilating, cupolas, general shop work and furnaces. Can also do drafting and pattern cutting. Address 207 North Pennsylvania Avenue, Mason City, Iowa. 12-3t

Situation Wanted—By a first-class sheet metal worker. Have had 20 years' experience. Am also a first-class hardware clerk. Will go anywhere. Address A-66, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois. 11-3t

## TINNERS' TOOLS

Wanted—An eight foot steel cornice brake. Must be in good condition. Address H. A. Ebert, Alden, Minnesota. 12-3t

Wanted—One pair second hand rollers 30". State price in first letter. E. J. Wakeford, care of Edw. Knoll, Stillman Valley, Illinois. 13-3t

For Sale—A complete set of tinner's and plumbers tools in fair condition. Also several pipe cutters. Address Northern Hardware, Petoskey, Michigan. 11-3t

For Sale—One complete set of tinner's tools, including 8 foot steel cornice brake. All in good condition. Address Harry Hatesohl, 1223 Garfield Street, Beatrice, Nebraska. 13-3t

Wanted to Buy—One or two second hand small turning machines P. and G. without stand. Condition of faces not particular. One 20" bar folder. Fremont Furnace and Metal Works, Fremont, Nebraska. 12-3t

For Sale—Second-hand Gem fire pot, \$5.00; No. 5 bench shears, \$4.00; 30" forming machine, \$9.00; one beading machine with one pair rollers, \$10.00; small pipe vise, \$1.50. W. F. Budd, 453 Englewood Avenue, Chicago. 13-1t

For Sale—A set of tinner's and plumbers tools, and remnant stock of material, located in one of the best towns in Southern West Virginia, in the heart of the Pocahontas coal fields. A fine opportunity for any practical mechanic who wishes to start in business. For further particulars, address M. G. Whitlow Hardware Company, Bluefield, West Virginia. 11-3t

## SPECIAL NOTICES.

Special Notices are charged at the rate of \$3.00 per inch per insertion

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22 F. St. Northwest, WASHINGTON, D. C.

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## SPECIAL NOTICES

## WANTED

Sheet metal workers—five Al men. Empire Auto Specialty Company, 2909 Indiana, Chicago, Illinois. 13-1t

## WANTED

Sheet Metal Worker.—State age and experience. Address Sandusky Cement Company, Dixon, Illinois. 13-1t



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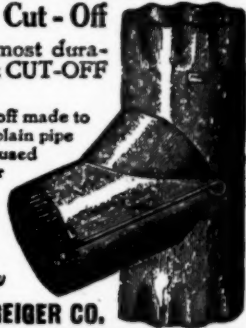
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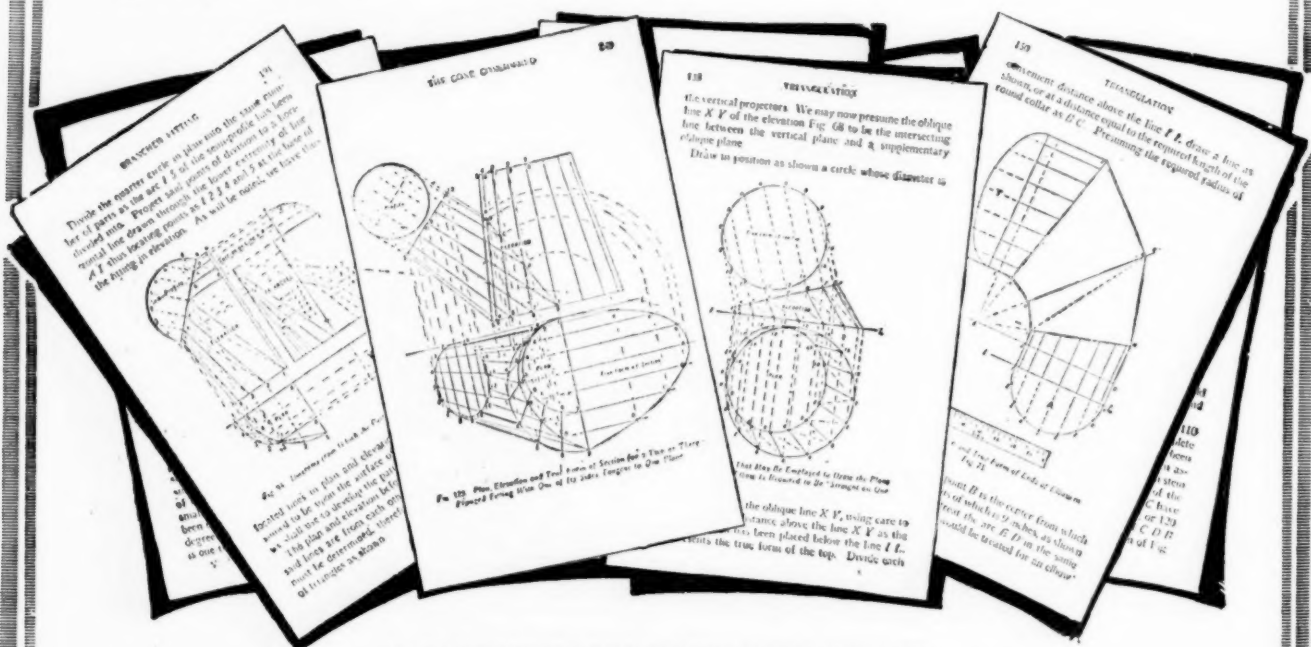
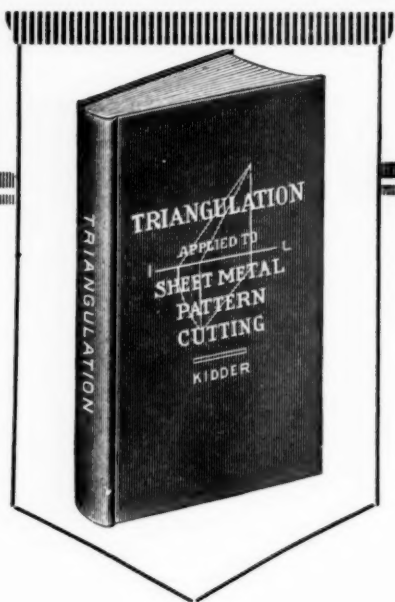
# TRIANGULATION

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